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ABSTRACT

The purpose of a 1992 course on emergent literacy in early childhood education was to formulate a shared definition of literacy; create awareness of the developmental process involved; test previous assumptions, methods, and techniques in the light of new knowledge; and develop pedagogic approaches and curricula relevant to the existing conditions in the course participants' communities. Following an introduction, this publication contains the major lectures delivered during the course: (1) "Introduction to Literacy" (Rina Michalowitz); (2) "Acquisition of Language and Literacy" (Dorit Ravid); (3) "Sensory-Motor Integration as a Precursor of Literacy Skills" (Luba Zuk); (4) "The Developmental Bases for School Adjustment" (Galia Rabinovitz); (5) "Language, Reading and Reading Programs" (Miriam Gillis-Carlebach); (6) "Emergent Literacy--From Theory to Practice" (Ilana Zeiler); (7) "Emergent Literacy: Children's Ways of Writing in Preschool Years" (Ana Sandbank); (8) "Literacy Acquisition in a Diglossia Situation" (Jihad Iraki); (9) "Literacy, Development and Bilingual Education" (Hanna Ezer); (10) "Bilingualism and Biliteracy" (Elite Olshtain); and (11) "Promoting Flexibility in Young Children's Minds within the Family--A Cross Cultural View" (Pnina Klein). References are included with all but the first lecture, and a list of course participants is appended. (TJQ)

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EMERGENT LITERACY IN EARLY CHILDHOOD EDUCATION

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EMERGENT LITERACY
IN EARLY CHILDHOOD EDUCATION

Course on Emergent Literacy in Early Childhood Education

Haifa, 25 October - 20 December 1992

UNESCO

The Golda Meir Mount Carmel
International Training Center

ED-93/WS/13

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UNESCO 1993

The Young Child and the Family Environment Project

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Foreword

UNESCO and Early Child Development

Early childhood care and education is now viewed by scientific and educational research as the first and essential stage of the basic education process. Recent world conferences testify to a growing appreciation of the crucial importance of the child's earliest years, and of the need to support families and communities in their role as the child's most influential educator.

Improving children's health and nutrition is a first duty, but increasingly, in a situation where twelve out of thirteen of the world's children survive until the age of one, governments and civil society are turning their attention to the psycho-social and cognitive development of children. There is ample evidence[1] to show that healthy children who have experienced good early learning programmes are much more likely than other children to remain in primary school and achieve good results. In addition, countries that succeed in mobilizing local government, municipalities, communities and voluntary organizations in the care and education of very young children have been able to decentralise and innovate in their educational systems and, at the same time, make an important contribution toward population information and the education of women.

UNESCO joins with other specialized agencies of the United Nations, in particular UNICEF and WHO, in assisting governments:

- to forge links at national level between between the primary education system and early child development programming;

- to identify and support first-class universities and institutes which will research national needs and train high-level personnel to plan and animate national or regional policies;

- to support model early childhood and family development projects that stress the inner needs of children and the education of women;

- to promote legislation on behalf of children and families, and in particular, the Convention on the Rights of the Child;

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1. See Myers, R. *The Twelve Who Survive*, Routledge/UNESCO 1992

In addition, UNESCO in keeping with its educational, scientific and cultural mandate:

- encourages research leading to practical action in favour of young children and families,

- acts as a networking and clearing centre for information and briefings on early childhood;

- seeks to prepare children for schools and schools for children by encouraging and promoting respect for the young child's natural, learning process;

- collaborates in artistic, intellectual and cultural events promoting reflection on childhood and family issues.

For more information, please contact:

The YCF Project
UNESCO,
7 place de Fontenoy,
75352 Paris 07 SP, France

Fax. (33-1) 40.65.94.05

Preface

Established in 1961, in Haifa, Israel, the Golda Meir Mount Carmel International Training Center (MCTC), fosters cooperation with developing countries through educational programs for middle-level professionals. The courses are designed primarily to increase the knowledge, skills and competence of students, most of whom, in their countries, are engaged in multiple tasks as community workers, teachers, administrators and supervisors.

At the time the Center was founded, Israel was also coping with many problems similar to those that confronted the newly emerging states, such as high rates of illiteracy, a high incidence of disease, a dearth of essential community services, and a lack of trained community and public service workers as well as of trainers.

During the three decades since the initial study programs were launched, 6,050 participants from 118 countries of Africa, Asia, Europe, the Caribbean and Latin America have attended 139 courses, 39 workshops, 117 on-the-spot courses and 20 women leaders seminars.

The courses have dealt with rural community development, the organization of income-generating projects, programs for youth, volunteers, women's leadership, and early childhood education. They have been constantly reviewed and revised to accord with the changing needs and conditions prevailing in the participants' countries.

Because of the overwhelming need to train women for community services, and the prolonged neglect in providing education for them, MCTC courses were at first open only to women. But from 1970 the Center began to accept male candidates as well. The co-educational courses proved successful and taught both the men and the women how to work together. However, women have generally been in the majority at MCTC and their problems have been given priority in the Center's study programs.

Over the years, MCTC has developed working links with the specialized UN agencies such as UNESCO, UNICEF, FAO and ILO, and has cooperated with them on special projects. The Organization of American States (OAS) has granted travel stipends for study at MCTC and funds for new projects initiated by students after returning to their countries. Networking with national and international women's organizations has enabled MCTC to enhance the dialogue among women active in public life from developing and industrialized societies. One of the ways this is done is through the organization of periodical women leaders' seminars.

The training programs for early childhood education offered by the Center since 1963 recognize that education is an essential part of community development. These programs initially focused on training personnel to serve the development needs of young children and prepare them to enter formal education settings. In recent years, the Center has conducted study programs for early childhood educators who are trainers, supervisors and curriculum planners, in order to reach and benefit a wider population.

To date, 1,373 students have participated in 38 regular courses and 22 short workshops on Early Childhood Education at MCTC. In 1978, MCTC began to conduct on-the-spot courses in the participants' countries, where many more teachers can be trained with the specific advantage of relating to local conditions and resources, and dealing with issues that are relevant to them; 2,197 teachers, principals and supervisors have attended the on-the-spot courses.

Since literacy is a most urgent need in various developing countries, it was deemed most appropriate to offer the course on Emergent Literacy in Early Childhood Education as a platform for the discussion and clarification of the issues involved.

Fannette Modek
MCTC Director

Acknowledgements

We particularly wish to thank UNESCO's Young Child and Family Environment Project, for the interest and encouragement given to us in the production of this publication on emergent literacy. MCTC is pleased to be part of UNESCO's effort to recognize as a developmental and educational priority both the potential and needs of very young children .

Our gratitude goes to the lecturers for their gracious cooperation, first in the classroom and later in taking time from their very full work schedules to review and complete the written drafts of their talks.

We wish to recognize the continuous collaboration of Dr. Rina Michalowitz, Director of the Division of Pre-School Education, Ministry of Education and Culture. Her helpful guidance and erudite counsel in the planning of courses on Early Childhood Education has been invaluable.

In addition, we are pleased to acknowledge the on-going interest and support of the Division for International Cooperation, Ministry of Foreign Affairs, Israel, and the "Haigud" Society for the Transfer of Technology in MCTC's effort to compile this book.

Special mention must be given to Mazal Renford, Deputy Director of MCTC, to the editors Ron Wegsman, Dvora Geller and Joan Hooper; and to Ida Schlesinger, without all of whose tremendous efforts this book would not have met its deadline.

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Introduction

Many participants in early childhood education courses at MCTC reported that dropout rates, and the number of children who stay back in primary school, are causes of much concern in their various communities. The MCTC instructors who regularly conduct on-the-spot courses have identified some of the factors that seem to contribute to such educational problems. In many communities, reading and writing are taught at the age of four years or younger, as a formal decoding process only, to children who have had no prior educational experience. Instruction is frequently in a language which the children do not know. Children may speak a local or regional dialect at home, while school instruction takes place in the official language of the country or in English.

In a society that values literacy, perhaps nothing is more important to parents and teachers than having children learn to read well. Given a choice, more and more parents are voicing a preference for placing their children in programs that have a vigorous beginning reading emphasis.

Investigations of how young children master reading conducted over the past few years have led educators to question many long-accepted notions about reading readiness. This has brought about a new definition of literacy, one that sees literacy in its larger social and cultural context. Literacy, in the current view, is not just a mechanical aptitude to read and write, but the ability to function in a literate society.

Today, educators recognize that teaching children to read involves more than just teaching a few basic skills like letter recognition and letter-sound association. They now know that a child's interest in reading begins at a very early age, and that many children not only learn to read at an early age, but do so in ways that differ from conventional and/or adult ways. These facts were not clearly understood in the past.

The research findings suggest that preschool should systematically increase children's acquaintance not only with oral language, but, more importantly, with written language as well.

The problems in this field are numerous and widespread. Much research is being done and programs are being created in order to discover more effective ways of creating a literacy environment which can enable children to learn how to write and read as a natural development process.

Many developing countries have recently taken decisions to expand child care and education services in their communities. In Israel, the Ministry of Education and Culture's Department of Preschool Education, which is responsible for the pedagogic supervision of children from ages

two to six enroled in full day care or half-day kindergarten programs, is in the process of reviewing its preschool curriculum and evaluating existing literacy programs. Its aim is to provide a suitable, enriched environment for as many young children as possible.

Thus, MCTC's 1992 course entitled Emergent Literacy in Early Childhood Education, seemed particularly timely. Thirty participants from 20 countries of Africa, Asia, Europe and the Caribbean Islands were selected to participate in this study program. Its purpose was to formulate a shared definition of literacy; create awareness of the developmental process involved; test previous assumptions, methods and techniques in the light of new knowledge; and develop pedagogic approaches and curricula relevant to the existing conditions in the course participants' communities. Lectures were given and discussions led by educators involved in research and teaching in universities, teacher training colleges, research institutes and treatment centers throughout Israel. Guided observation visits to child care and education settings were followed by feedback sessions.

This publication contains the major lectures delivered during the course. They were recorded in the classroom, then edited with a view to preserving the teacher-learner atmosphere.

English, the medium of communication in the course, was a native tongue for only a few of those involved; therefore, weighty concepts often were expressed in simple terms. We have decided to preserve that level of language in this book, so that it can be accessible to as wide an audience as possible.

The participants represented numerous cultural backgrounds, providing an array of perspectives on the development of young children. Indeed, the participants and many of the lecturers told us that they felt they had gained a great deal from the multi-cultural dialogue that resulted.

The course participants also contributed a great deal to the sessions. In the lectures given by Dorit Ravid, Elite Olshtain and Luba Zuk in particular, we felt it important to include the participants' questions and comments.

The lectures can be divided into five groups. Dr. Rina Michalowitz and Dr. Dorit Ravid discussed literacy, which served as an introduction to the course theme.

Luba Zuk and Galia Rabinovitz reviewed developmental aspects, emphasizing sensory-motor development and emotional development, respectively. Professor Elite Olshtain and Dr. Hanna Ezer presented different facets of bilingual teaching.

Different approaches to writing and reading were addressed by Dr. Miriam Gillis, Dr. Ilana Zeiler and Ana Sandbank. Jihad Iraki referred to her research on diglossia in the Arabic-speaking world.

The article by Professor Pnina Klein, which has already appeared in the *Journal of Early Childhood*, discusses the importance of the role of the adult as a mediator in the development of the child.

We hope that this material will assist those educators who are beginning to question the strategies they are using for young children to learn to read and write; and will reinforce those who are experimenting with new and creative procedures.

Janette Hirschmann
Director of Courses on
Early Childhood Education
(in the English language)

Introduction to Literacy

Rina MICHALOWITZ

In some dictionaries, "literacy" is defined as knowledge of the written language. In others, it is defined as the state of having knowledge - that is, cultural literacy. Why this difference? I believe that cultural literacy involves more than one kind of literacy, and that knowledge of the written language is one of them.

Some months ago, the Israeli Ministry of Education started talking with the psychological services about implementing in the educational system what is called "education for life skills". The ministry meant subjects like educating to prevent drug or alcohol abuse or road accidents. I participated in these discussions and was asked what this meant in the context of early childhood education. I answered that educating for life skills is what we do all the time.

In early childhood education, education for life skills involves four things. It involves, first, developing the skills needed to preserve physical safety; this is physical development. Second, the skills needed to preserve mental health; this is emotional development. Third, the skills needed to exist in society; this is social development. And fourth, the skills needed to function optimally in society; this is cognitive development.

Education for *physical development* includes learning health, nutrition and hygiene, as well as physical education in the sense of sport and movement. It also includes learning safety: road safety, keeping safe from strangers, the ability to behave in unusual situations. It includes, as well, learning to preserve the quality of the environment.

Dr. Rina Michalowitz is a clinical-developmental psychologist specializing in the field of cognitive development. Her research has concentrated on the development of logical thought and imagination in young children. In recent years she has been involved in the development of a curriculum for preschool children. She heads the Department of Preschool Education of the Israeli Ministry of Education, which supervises all the institutions for early childhood education in Israel.

Education for *emotional development* deals with the development of a good self-image and a positive personal identity, and skills like independence, the ability to cope with challenges or frustration, failure, etc.; and the ability to enjoy achievement, to struggle for it and to give up when it is necessary.

The third subject, *social development*, includes understanding and adapting to norms of behavior, developing self-control, and understanding the meaning of punishment, guilt and so on. It includes finding one's place in society, becoming accepted, getting acquainted with others, developing friendships, learning both to lead and be led. It also includes communications skills: personal and inter-personal communication, verbal and non-verbal communication, understanding media and mass communication.

The ability to function optimally in society involves three things. First is *understanding the cultural context* in which one lives. This is cultural literacy - knowing the way the culture expresses itself, in the written language, music, art and other cultural expressions. Part of cultural literacy involves the basic academic skills of reading, writing and mathematics; that is part of what is needed to function within a culture.

Second is *developing learning skills*: knowing how to learn, knowing how to use sources of information, developing intellectual skills and dispositions. Imitation is a learning skill, as is play. Intellectual skills include concentration and perseverance. Curiosity is an intellectual disposition.

Third is *knowing how to control modern technologies.* Technological literacy is also a part of cultural literacy, and in our day computer literacy is part of it.

Developing literacy in young children means, in my opinion, developing cultural literacy in the broad sense.

We have a debate in our system about whether five-year-old children who still have problems with language development should be taught how to use computers. Some educators feel that there is no point in working on computer literacy if a child's language skills are poor. I disagree. Soon computers will be everywhere. When you use a bank's automatic teller machine, you are using a kind of computer. Using some public telephones is like using a computer. When you buy a ticket on the underground here in Haifa, you are using a simple kind of computer. We must prepare all children for this.

Literacy in the written language doesn't mean only knowing to read and write. Rather, first and foremost, it means understanding the uses of the written language. I may not teach reading in kindergarten, but I do

expose the children to the written language. This is a process that begins even before kindergarten. When a parent brings his child a picture book, shows him a picture of a doll and says, "This is a doll", he is educating for literacy. The book becomes, for the child, an object from which he gets information. Now it is a picture of a doll; later it will be the word "doll". Now the parent tells the child about the doll; later the child will be able to read about it himself. The main thing is that the child comes to understand that books provide information, that the different pages contain different information. This is a part of what I mean by understanding how one makes use of the written language.

Knowing the uses of written language also means knowing what it is for. We once asked a group of kindergarten children what kinds of things can be written. "A letter", they answered, "or a shopping list. A woman may write a note to her husband saying she will be coming home late". What kinds of written things do you know about? we asked. The children mentioned letters, books and newspapers. Where do you see written things? "On the top of the shop is written that it is a furniture shop", children said. They had partial literacy without knowing yet how to read or write.

Motivation is an important component of literacy - the child must enjoy dealing with the written language. This begins very early, from the time the small child brings a book to his parent and wants him to do something with it.

I once accompanied the director-general of our ministry on a visit to an elementary school. We entered the library and found children sitting and reading. The director-general asked the children to tell him what was the last interesting book they had read and liked, beside what they had on the table. The children could not name books, not even magazines, except for school-books.

The children knew how to read. But we had achieved nothing. Because if the citizen does not use the written language for his own enjoyment or knowledge, what is the point of teaching reading?

Our job in educating for literacy is not only to make books available to children, but to make them enjoy the books. They must understand the importance of written language and enjoy it. Once that is accomplished, the formal reading and writing come easily.

I don't talk here about "teaching", but rather about "growth" and "development". We give children the opportunity to meet, to be exposed to, the written language - to gradually develop pre-reading skills.

Very early in their lives - between the age of three and four - children make the distinction between writing and drawing. They know

there are special graphic signs for the written language. Children develop written language in the same way they develop play - building with blocks, playing with computers, sociodramatic games (play with a story; for example, playing with dolls), and so on. In each case they start with what you could call scribbling. When children first play with blocks, they just fool around with them without doing anything organized. They are scribbling, in a sense. In the second stage, they make something schematic, like a simple tower or a train. In sociodramatic play, they may hold the doll and feed it or put it to bed - very simple actions. Later, play becomes more complex.

Writing ability develops in the same way: at first the children scribble, then they use schematic writing. They write some letters and define them as words. Later, they combine the letters and try to write words correctly.

Children develop gradually an understanding of what written language means. If you ask young children to write "bear", they will write something big; and if you ask them to write "mouse", they will write something small. Only later do they learn how many syllables a word has.

This is the same as in the development of oral language. In a typical study, a researcher asked children, "Can you write the word `sky'?" They didn't know how to write, so the researcher said, "Okay, I'll write it for you. May I write it with a red pencil?" The children said: "No! You have to write sky with a blue pencil".

The researcher told a child, "I am going to write the word `ball', and wrote something with small letters. "What do you think it is", he asked the child. "Is it a small ball or a big ball?" The child answered: "A small ball". The researcher asked: "How should I write `big ball'?" The child said: "You have to write it very big".

This is the same thing Piaget pointed out regarding thinking about oral language. He asked a child: "What do you think would happen to a dog if we called him by the name cow?" The child answered: "Instead of barking, he would say moo". The child thinks the word, whether oral or written, is not just a sign for something but has a content of its own.

All the aspects of development are dominated by the development of thinking - of what we call the child's mental structures. For this reason, *part of the development of literacy is restricted by the child's mental development*. But *the understanding of where one encounters written language, and the enjoyment of written language, develop very early*.

If this is so, what can we do in kindergartens to promote literacy? We can give children the opportunity to encounter written language in an

organized way. They are, of course, encountering written language everywhere, but not in a organized way.

Exposure to written language must be done gradually. It doesn't mean filling up the kindergarten with written language. It doesn't mean the young child should see near every object the written word that corresponds to it. The words have to be clearly connected to meaning. You can write "occupied" one side of a paper and "free" on the other, and hang it on the lavatory door. The child will see that if one side of the sign is showing, the lavatory is occupied, and if the other side is showing, it is free; he will be using the written language without actually reading. The written language can be used as part of sociodramatic play - by, for example, putting up a sign "Quiet" or "Don't disturb the doctor" in a doctor's corner. The children will learn to use the sign much earlier than they will learn to read or write it.

Again, the beginning of writing involves the same development as that of oral language. Children understand oral language before they are able to use it. At first, they often use words that are not common, shared words; that is, they come up with their own words for certain objects. Gradually, they begin to understand that oral language is a common language, and they have to ask: How do I say this? This is when they start asking parents and teachers: "What is this?" They are asking for the object's name. Regarding written language, they ask: "How do you write this?"

We also want to help the child gradually understand that there is a connection between oral and written language. We can ask the children to show us pictures of things that start with the same sound.

As I said, we are not teaching reading here. We are just exposing the children to written language. But we do encourage children to use written language if they want to. The children find their names written on whatever belongs to them in the kindergarten. When they finish a drawing, we ask: "Do you want to write your name on it? Should I write it for you? You can write it on your own and even if it doesn't look like your name, that's okay". Later the child realizes that another person can't understand what he has written. The child begins to recognize that language is common. Then we write his name and let him copy it. Or we write down whatever he wants to write and let him copy that.

We found something interesting when we introduced computers into kindergartens. We didn't do this in order to teach written language. We had two other reasons for introducing computers. First we thought that computers would help the children develop what is called *reflective thinking*. Reflective thinking contrasts with *impulsive thinking*, which

means responding without collecting all the information. When pupils respond before the teacher has finished asking the question, that is impulsive thinking.

Sometimes impulsive thinking is desirable, as when you are driving and need to act quickly to avoid an accident. But in general, impulsive thinking leads to a poorer quality of response than reflective thinking, in which the response is held back until all the information is received. For a long time, psychologists thought that this was a style of behavior - that it was a personal trait, not something that can be taught. Modern psychologists think differently.

We find that the computer is a very good tool for developing reflective thinking. When children play on the computer, respond impulsively and give an incorrect answer, the computer "punishes" them. The next time, they hold back before they act.

We found that when two children worked together, sometimes one would grab the other's hand and say: "Wait, don't do that. Let's plan".

Our second aim was to help the children develop *visual thinking* - to learn to imagine, to use imagery in problem-solving. But very soon we found that the children also tried to use the keyboard for writing. So we introduced some letter games. We asked the teachers not to help the children with them. This gave us an opportunity to observe how the development of written language recognition occurs naturally, without any teaching.

What did the children do with the letters? At first, they scribbled: they typed letters at random. Later on, some of the children got to recognize some of the letters that appear in their name. They saw them on the screen and started to look for them on the keyboard. Some children eventually started to write words phonetically. Soon they found out that if they wanted others to read what they had written, they would have to leave spaces between the words.

The computer gave the children the possibility of experiencing the features of the written language, learning about the written language, learning that everything that is said has a written equivalent, and learning that there has to be a space between the words. All this happened without formal teaching.

Of course, you don't have to have a computer to do all this. It can be done with blocks or other materials.

There are other elements of written language a child is expected to know before he begins formal schooling. Children come to the first grade and the teacher says: "Open your book to page 2". The children have to know not only about books, but all the concepts connected with books. They

need to know what a page is. They need to know that the book opens from the left side or the right side, according to the language they are working in. They need to know that books have covers, that each book has a name, that the book's pages have numbers.

It is very important for the acquisition of written language for the child to have a knowledge base. Once I opened a lecture by writing an outline on the blackboard. I wrote it with many grammatical errors, and I used non-existent words that were similar to real words. I told the audience: "Before I start, please read the outline". Very few recognized that something was wrong with it.

Why? When you read, you don't read letter by letter; you read for meaning. You use your knowledge of the language and of the subject. And if you don't understand a word, you may not even notice if you understand the text as a whole. You complete the meaning. Only if the word is a key one, without which you cannot understand the text, do you have a problem. Everyone who uses a second language has come across this phenomenon.

If children get textbooks in school and they do not have the knowledge needed to understand the books' contents, they will have difficulty learning to read them. They will not have trouble decoding the letters, but the words they decode won't make any sense to them.

I came across an example of this in a small village. The children had to read a simple passage about traffic lights; but there were no traffic lights in the village and the children had never seen any. The text was: "Red light, stand. Green light, pass". In Hebrew it is a rhyme. The children couldn't read this simple passage because it had no meaning for them.

Another component of learning a written language is metacognition - knowing about knowing. Using metacognition means being aware of what I know and how I know. It is a part of the reading process. As you read this, you compare what you are reading to your knowledge base. You are constantly asking yourself: Does this make sense? If it doesn't you ask: Why? Is it because it doesn't fit the things I know, or because I didn't understand some word? The cognitive process works in parallel: it deals with the information, and, at the same time, it controls understanding.

Many children read without any expression because they don't understand what the text means, but are not aware of it. In one school I visited, a child read: "The carpenter hit the nail with a hammer". Everything seemed fine, but I asked him: "What did the carpenter do?" and he couldn't answer. He had read by rote. This would not have happened had the child had metacognitive control of his thinking.

Sometimes a kindergarten teacher tells a story and uses a word the children don't understand. They interrupt and ask, "What's that?' Or they may say: "It's not true. It doesn't make sense". The process of interruption is very important because it is a sign of a metacognitive process.

In principle, we have to educate the kindergarten teacher to allow the process. But the interruption of an adult is not acceptable in every culture, and I'm not going to tell anyone to change his cultural habits because of my notion of metacognition. So if the teacher doesn't allow interruption, he has to do something after he finishes the story to help the children learn to react to what they understand and, especially, to what they don't understand.

Knowing the contents and language of the culture, then, is a prerequisite for acquiring the written language. By contents of the culture, I mean what we call things, what kind of things happen in our culture, the ways of life, holidays and so on. If children don't know about it, they won't be able to read it. And if they don't know the correct spoken language, they will not be able to acquire the written language. Knowing the spoken language also means knowing its grammar. If they don't know the grammar, they won't be able to make sense of the word when it appears in written form.

Children in our Arabic-language schools have a particularly hard time learning to read because in Arabic, the written language is very different from the oral one. One of the supervisors who works with the Arabic-language schools wrote her thesis on the subject. She concluded that for the Arabic-speaking children to succeed in reading, we have to read to them a lot of stories in the written language.

In fact, this problem is particularly acute in Arabic, but it exists in every language. In no language are things written exactly as they are spoken. So one of the ways to prepare children for written language is to let them meet the language as it is written - that is, to read them stories in the written language.

Of course, every language is different and presents its own challenges. Not all languages can be taught in the same way. You have to analyze your own language very carefully and not just copy from other cultures.

Recently we have had a lot of immigration from Russia. Russian, as you probably know, is a very different language from Hebrew.

We asked one of our specialists in oral language development how to teach the immigrant children Hebrew. She said we should make a distinction between a *second language* and a *foreign language*. When we

teach immigrants Hebrew, she said, we are teaching them a second language - in effect, a second mother tongue. It is a language they will need to know for life skills.

At home, the children speak Russian. But when they go outside, they have to use Hebrew. They have, then, a lot of motivation - and opportunity - to learn. Under these circumstances, children acquire the language very easily.

This is not what happens when we teach a foreign language, as we do English. The child speaks English only in the lesson; he does not use it at home or outside. The foreign language is less easily learned.

We found that many immigrants with newborn children tried to speak Hebrew with them. They thought this would help them. We now know this is not good, for two reasons. It is not good emotionally, because a mother has to love her child in her own words and express herself in the language she knows best. It is also not good from the point of view of acquiring a language. The child learns the syntax of the language from his mother. It is something that is never taught formally. Psycholinguists, who study the psychology of language, believe a language is learned mainly by acquiring its principles. If parents speak with the child a language that is foreign to them and make grammatical mistakes, the child will not be able to pick up its principles. Nor will he come to understand that there are principles in languages. Thus, he will have difficulties learning the second language as well.

Very young children, even those younger than kindergarten age, can differentiate between languages and know when to use each one. I know a highly educated woman who wanted to teach her daughter a very highbrow, literary Hebrew. In Hebrew we have some words that are not used every day. For instance, she uses a word for slippers that is never really used. Her husband, an ordinary guy, uses the ordinary word. So the girl, who is two-and-a-half years old, uses the fancy word when she speaks to her mother and the ordinary word when she talks to her father. She knows which word belongs to each person.

So we see that children can learn two languages without any difficulty, if they are necessary for life skills.

To summarize: Knowledge of the written language is part of cultural literacy in its broad sense. The acquisition of literacy as knowledge of written language begins very early, and it includes three factors:

1) Information about the written language - knowledge about the uses of written language and where it can be found, about reading and books, and about writing and its features. This knowledge is acquired a long time before the child learns to actually read or write.
2) Dispositions towards what is read - curiosity about written material, interest in what is told from books, the preference for some books over others, and the enjoyment of them. These dispositions, too, are acquired very early.
3) Skills related to the decoding of what is written - the technical acquisition of reading and writing - develop gradually. They include phonological knowledge and the ability to make visual and oral distinctions, which are the basis for the formal teaching of reading and writing.

The State of Israel's policy of education for literacy in early childhood is based on these ideas. In Israel all the kindergartens for ages three and up are under the supervision of the Ministry of Education. (From 1994, this supervision will be extended to day care centers for the age of two.) The curriculum provided to kindergarten teachers includes a chapter on educating for literacy.

We believe that kindergarten teachers have a very important role to play in the mediation of literacy. In the past few years, much has been done to train supervisors in order to provide kindergarten teachers with the ability to give children proper literacy education.

There is still a great need to educate parents, who tend to be concerned mainly with the provision of technical reading skills and are not aware enough of the nature of literacy education in its wider sense. Parents need to be made cognizant of the fact that they have a critical role to play in the child's literacy education; that their task is to provide the child with a rich literate environment in which they, the parents, themselves serve as the model for using written language.

Acquisition of Language and Literacy

Dorit RAVID

I'll begin with the acquisition of language, how children acquire language, and then go on to the acquisition of literacy, the way children learn to function in a literate society.

What is language?

What exactly is language? Whenever I ask people what language is they usually answer something like communication. Communication is indeed one of the functions of language, but no less important is language's function of self-expression. Language is a system, a network, not just a random group of elements which have no connection. The elements of language are related to each other in a structured way. The key words are network, system, structure. This, of course, means that the elements of language - or languages - are bound by rules.

Language is a structured system

Take, for example, the pronoun system in English. Pronouns such as "I," "me," "my," and "myself" are related to each other horizontally, since they all indicate the first person. "I," "you," "he," "she," "it," "we," and "they" have a vertical relationship. Each of these elements are related to the others. To take another example, the words "driver," "teacher," "sailor," "counsellor," "tailor," "usher," "farmer," and "worker" are all related to one another through the "er" or "or" suffix indicating a person who does something.

The properties of language

Every language is a system, so a child, when he or she is acquiring language, has to learn a system of rules. There is a universal core of rules shared by all languages. Language, in its essence, has three important dimensions: it is human, it is natural and it is alive. It is human as

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Dr. Dorit RAVID, Lecturer, Department of Communication Disorders, Speech, Language and Hearing, Fackler Faculty of Medicine, Tel Aviv University. She is involved in research on the Interaction of Language Acquisition and Literacy, and is currently writing a book on this topic.

opposed to animal, natural rather than artificial, and children learn it at home in their natural environment, so it is a living language Language is a biological property of human beings, and human beings only; we have *the capacity* to learn language in our genes. No single language is transmitted through our genes, but the capacity to acquire language is part of our inheritance as human beings.

Everybody has language

Every single human being has a spoken language. Of course, there are people who are impaired in some way, whether they are autistic or deeply retarded or have cerebral palsy. These do not include deaf people; they have their own, natural, living language - sign language. A person's level of intelligence is irrelevant. It doesn't matter if you have an IQ of 90 or 190; you will acquire language.

Language develops

We said that every person has a spoken language, but does every child have a spoken language when he or she is born? Of course not! Language is acquired developmentally. It takes time. It takes from birth up to puberty and adolescence - between the ages of 14 and 16, when children first undergo sexual maturation. There are two conditions for language acquisition: one is *exposure* to language, the other is *maturation*. The child must be exposed to human language. And the child has to eat, sleep and grow. If children suffer from malnutrition, don't get enough love and whatever else they need, they won't grow or mature.

Language is human

Only human beings who are exposed to human language and who grow up will acquire language. Although we share 99% of our gene structure with chimpanzees, they do not acquire language. They communicate in other ways. Dolphins communicate. And we communicate too. But the difference is that human language is infinite. Human language has a finite number of phonic sounds, between 20 and 40, no more. And the number of words is finite too. Moreover, human language has a finite number of rules governing it. However, there is an infinite number of combinations of rules and words - and this is what makes us different from animals.

The number of sentences in a language is infinite. Every sentence I say is new (except the sentence I've just said). In other words, we don't remember sentences by heart. I know what I want to talk about, but I construct sentences as I go along. I don't make up my words as I go along; I remember them by heart. And, indeed, we don't make up new

words all the time. Children do, by the way, because their lexicon is limited. This combination power is grammar; all human languages have it. There isn't a single language which does not have grammar. Every language has rules and every child has to learn the grammar of his or her language.

Human language is natural

Any human language is natural, too. Computer language, Braille, and Morse code are all artificial languages. What makes them different from human language? One difference is how you acquire language; the other is how language changes. A natural language is not acquired in a classroom. A child learns a language effortlessly, and perfectly. It is acquired naturally. Computer language, on the other hand, must be taught. I'm not talking about a learned foreign language but about first language, the acquisition of a mother tongue. Human language is a property of human beings. This is the reason why language changes not through one person but through collective use. Artificial languages are a product of human beings. Some person sat down and invented Morse, or computer language.

The genetic disposition

Learning a second language as an adult takes a lot of effort. Even well-educated people who take their young children to another country will never achieve native fluency, but their children will be fluent within the year. How come these children, who are not smarter than adults are, can acquire language? Imitation isn't the answer because you cannot imitate anything which is infinite. We come to the conclusion that children are equipped with some sort of genetic disposition, tendency or mechanism, in their brains which enables them to acquire any human language. It doesn't matter to the child whether he or she was born in Israel or Turkey or Thailand or India or Bolivia or Kenya. And if you move a child at any time between infancy and puberty, between the time the child is born and the time of adolescence, the child will acquire another language just as easily. It is as if the child were born with a blueprint for the universality of language.

Universal grammar

There is some sort of core which is common to all languages; we linguists call it universal grammar. For example, all languages have sounds. Sounds fall into classes, like "d", "t", "p", "b" and "k". Not all languages have these particular sounds; but all languages have words and words in

all languages have structure. All languages have a way of focusing on the person who does something and/or focusing on the action or the person receiving the action. All have ways of commanding, asking a question, negating. Our idea is not that the child is born as a blank slate, but that the child is born at stage zero, with some sort of wiring, some innate program which enables him or her to acquire language. As the child grows in the first year, maturation occurs and the child is exposed to language. The child has now more than an innate program; the child has knowledge. For example, we have evidence that children are born with the ability to make a distinction between movers and movees - things that move of their own volition and things that need to be moved. By one year of age the child is more sensitive to his or her native tongue. And so forth from stage to stage until adolescence.

Only children can acquire a language naturally

Around puberty something happens, and this wonderful property of being able to acquire any human language "effortlessly" stops. The ability does not die, because you can always teach someone another language. But something in the brain fossilizes, becomes rigid (not literally, of course, just metaphorically).

Bilingualism

Many people have more than one mother tongue. Maybe you think of some of the languages you know as dialects, but if they are mutually unintelligible, meaning people cannot understand one another when they speak them, then they are distinct languages. A child exposed to two different languages with their own rules uses an innate program to switch from one to the other. It is like being tuned to a radio - a child will, around the age of two, tune to Hebrew "radio" for one set of rules and to English "radio" for another.

Mala Ramadorai (India): Would a child be confused if he is spoken to in two languages, if his parents want him to know English, as happens in India, but they also speak a native language?

Dorit Ravid: If you grow up with both languages, then you are a native speaker of both. Take the example of a child who grows up in a home where the father speaks English, the mother speaks Polish and a grandmother speaks Romanian. The child speaks Romanian with the grandmother. When the child is ten, the grandmother dies. The child may continue to understand Romanian, but this knowledge will be

dormant. The language to which you have the most exposure will remain your dominant language.

Rosaline Menga (Cameroon): In my country we have a problem because we have the mother tongue, the native language, but we do not use it for schooling. We have a foreign language which we use for schooling - English in one part of the country and French in the other part. At home the child is exposed to the mother tongue, which is not written down, but used only for conversation. How can you reconcile such a situation?

Dorit Ravid: This is a common situation all over the world. For example, speakers of Moroccan Arabic go to school and they have to learn Classical Arabic, which is altogether a different language. What happens is simple. If the child is exposed to another language for a sufficient number of hours, he/she acquires it as another mother tongue.

Rosaline Menga (Cameroon): Soon the two official languages of Cameroon, English and French, will be required in all areas of the country, so that the children will have to learn three languages.

Dorit Ravid: Usually one of them is a dominant language, either the home language or the first official language, the one the child is most exposed to. The more exposure, the more knowledge.

Rosaline Menga (Cameroon): And there is pidgin English.

Dorit Ravid: This is not a problem; it is something which can be dealt with. If literacy is handled properly, the outcome will be positive as children will know more languages. I think the main focus should be on literacy, no matter what the language.

Donna Chin-Fatt (Jamaica): I have a problem distinguishing between a language and dialect now, because I feel that my dialect has all the characteristics you have already discussed.

Dorit Ravid: Language is universal; however, it is also diverse. It's a fact that we have different languages. If you don't grow up with a language, then you don't know it. Languages also have variations, such as dialects, which are geographical variations, and there are social variations which we call sociolects. Hebrew, for instance, does not have dialects, but it does have sociolects. Cockney English is a sort of sociolect although it is confined to a certain part of London.

Making a distinction

There are many variations of language: the written language, the spoken language. There are many genres and modes - child language, adolescent language. You listen to adolescents speaking your language and they seem to speak a different language. They use rules I am not familiar with. How do you differentiate between a dialect and a language? This may be a political issue. Hindi and Urdu are very similar, but India and Pakistan promote differences for political reasons. Dialects of Arabic are supposed to be dialects, but Palestinians in this country cannot understand Moroccan Arabic, so I wouldn't consider it a dialect - I would say it's a language. How do we make a distinction? If two speakers of two variations of a language cannot understand each other, these are two different languages. If they can understand each other, then these are dialects.

Language and metalanguage

I would like to make a distinction between language and metalanguage, "beyond language". Metalanguage is a component of metacognition. We said that language is a system which is internalized by children. Everyone has perfect knowledge of his/her mother tongue or dialect, but this knowledge is not conscious. It is not explicit knowledge. The knowledge of language is implicit, internal, intuitive. This knowledge of mother tongue comes from deep within and it is automatic; everybody in the speech community shares it perfectly.

Metalanguage means talking about language, studying language. It is the ability to go outside ourselves and look at what we know from the outside. It is a metacognitive ability. Language is implicit, intuitive. Metalanguage is explicit, something that you can study like you study biology. Metalanguage is also innate; you will find the capacity for metalanguage among children. However, the fulfilment, the realization, of metalanguage is dependent upon the environment.

Nature and nurture

The ability to acquire language has nothing to do with environment, except for the fact that you have to be exposed to language. The capacity comes with you, when you're born. However, metalanguage depends on the kind of home in which you grow up and the kind of educational institutions to which you go. Suppose a child asks his or her mother: Mummy, why do we say "go" and "went"? We should say "goed" and "wented". A mother who comes from a less literate background would

either disregard the question or would react in a hostile manner: "Why do you ask such a stupid question? Shut up!" That is not the appropriate reaction, of course. It will stultify, strangle, metalanguage; the child will learn not to think about language. But what you could do is say: "Because this is the history of English". You can say: "Let's look it up together". You can say: "I don't know. Let's ask somebody". If you answer to the point and you encourage the child, you will build metalanguage.

Metalanguage

We know from science that everyone will eventually acquire language. Why should we care about metalanguage? Everything we do in school, from kindergarten onwards, related to language and even not related to language, has to do with metalanguage. If you go to kindergarten and the teacher tells you about, say, opposites, that's metalanguage. If you learn to read and write, this cannot be achieved without metalanguage. You need the ability to discuss ideas, to discuss the very thing which helps you discuss things. So there is no future for a child in an educational system without metalanguage. This has nothing to do with reading and writing; its roots are much deeper. It begins in two places - the home (one's relationship with the child), and the kindergarten. Today we instruct kindergarten teachers in Israel to use metalanguage as much as possible.

Stages in language acquisition

When a child is born until it is about six weeks old, it just cries and makes what we call vegetative sounds, like coughing and survival sounds. From about six weeks to two months of age, children start smiling and producing sounds like "oooh" and "ah" and "ge ge". Eventually between the sixth and the tenth month, they start babbling, putting sounds together. Even deaf children babble. It's a natural thing, a developmental process. Around the first year, more or less, children start producing their first words, one word at a time. All over the world these words are about the same things: toys and food and mummy and daddy, kinship terms, useful things around the house and places they know.

Around their second birthday, children start putting words together like "mommy sock" and start noticing the grammar of words, plurals, adjectives. Very soon, around their third birthday, children are already in the middle of the acquisition of grammar. This is a wonderful period. Their innate program is helping children do this because it helps them pay attention to things which are more salient, more visible. It makes them listen for the rules of their language. By the age of five or six children

have much - though not all - of the grammar of their native tongue, without having been taught.

Language acquisition after age 5

Children go on acquiring their language between the ages of five and ten. Their metalanguage develops. The most important thing is that they start putting words and sentences together, to form a discourse. Everything we do in life is expressed by sentences put together. This talk is called discourse. A dialogue is discourse. A story is a discourse. Anything which is more than one sentence is a discourse. A discourse has rules of its own. It must have relevance. It must have structure. Children acquire discourse between the ages of five and ten. It is not accidental that, at least in Western countries, children start school between the ages of five and seven; this is the time when children are finally able to understand and produce a discourse. It is a developmental process. The discourse of a ten year old does not sound like the discourse of an adult. Children start school at a time when they are ready for it. They are prepared with metalanguage, for five or six years, and then they continue, independently, with the acquisition of discourse while they are taught about literacy.

English as a second language

It is ineffective to teach children to read and write in a foreign language without exposing them to communication in that language. In the last twenty years, the teaching of English in schools in Israel has advanced a lot. The main focus, now, is on communicative teaching, teaching in a natural setting or simulating a natural setting. The best way to teach a foreign language is through literacy, by, for example, using different textbooks and readers and grammar books for the same English course, with a variety of texts, and registers, which express different things using different grammatical structures.

How we teach English to children in Israel

English is introduced in the fourth grade. For a whole year children learn orally almost exclusively and at the same time they are taught the English alphabet. These children have already had three years of schooling, so they are well into literacy and have lots of advantages. By the end of the first year, the children have learned spoken English and they are also able to read. From the next grade we integrate four levels: speaking, understanding, reading, and writing, which is the most difficult.

Acquisition of literacy

Being literate - what does it mean?

First, let us define a literate person. It is not as easy as it sounds. When you ask people what an illiterate person is, they say it is a person who doesn't know how to read or write. That's not true! A person may have learned how to read and write in his or her native tongue and still be illiterate because reading and writing technically, making the signs and being able to decipher them, does not make a person literate. A person may be able to decipher the names of streets and even to read the sports page in the newspaper and still be considered illiterate. There are many definitions of literacy. I will mention two: The first definition is a functional one: a person is said to be literate if he or she can function at all levels of civilized life in his or her society or country.

Mala Ramadorai: What do you mean by civilized?

Dorit Ravid: This means that the person is able to answer the telephone and do the calculations for the supermarket and read a newspaper at the level of his own society. The second definition of a literate person is a linguistic one: a person who is able to use his or her language including all its variations. This last part is most important. Language isn't really homogeneous. It is homogeneous at the universal, theoretical level. But taking every language into consideration, every language has many aspects. For example, we already said that there are dialects and sociolects in language. There is the language of children, of adolescents and adults. There is the language of educated people and the language of less educated people. There are various forms of written language - daily newspapers or literature. The language of school texts is not the same as that of academic texts. The language of poetry is not the same as that of prose. It is only a literate person who is able to use all of these variations, to understand them and also to produce them.

Georgina Straughn (St. Lucia): When your people are able to just barely read and write, just for going to the bank, I mean simple things like that, is this functional literacy?

Dorit Ravid: Yes, that's functional literacy within their own society. Obviously, what we want to produce in our educational systems are literate people. I would like to elaborate on the meanings of literacy using the notions of a social psychologist, Basil Bernstein, who worked in England in the 1960s. He investigated the language of

English-speaking children from the lower classes and from more established backgrounds. He discovered that when you use language you are using a code. There are *two language codes*. One is the ***restricted or limited code***. This is the form of usage which is typical of the spoken language. It is restricted from the point of view of language. Suppose we were having a discussion, and all of us had a common background. I wouldn't have to tell you much about the subject, because we all share in it. I wouldn't use much language. I would just say whatever comes to my mind because everything can be interpreted, understood from my context. For example, I can use my hands and face for bodily expressions and gestures. So the restricted code is not very verbal.

The elaborated code

The second code Bernstein called the elaborated code, meaning expanded, larger, detailed. This elaborated code is typical of written language or variations of language which are closer to written language. It is more verbal. When you read a text, the writer is not there. The writer does not know how much background you share with him or her. Therefore, the writer makes sure that you know what he is talking about. He gives you lots of background, descriptions, elaborations. You cannot stop a writer in the middle and ask him a question. Therefore, a good writer makes an effort to be clear, to plan ahead. There is a structure to his writing - an introduction, central ideas and a conclusion. Since you cannot address a writer, the only way to interpret or understand is by reading the text.

Exposure to literacy

One of the important tasks that we have in school is teaching children to write in the elaborated code. In other words, it isn't enough that they write. They have to understand the need to write in different variations of language. You can see the differences between people who come from a literate background and people who do not. There is a difference in the way they treat written language. This has nothing to do with actual reading and writing. It has to do with whether their caregivers from a very early age read them stories from books, whether they are used to books or to texts having a different language. Remember that I am talking here about language, not about cognition. In other words, people who use the restricted code are not less intelligent. They are not deficient in any way. They simply have just one code instead of two.

Register

Another variation of language is called "register". Register in linguistics means changing your speech style according to circumstances, according to the situation. You speak differently to your spouse, your children, your friends, your colleagues. A literate person knows how to vary his or her speech. This is innate. Again, its application depends on the environment. Little children, as young as four, already know when to use the formal or the familiar form of speech, for example, "vous" or "tu" in French. Many languages make distinctions which have to do with register, so a literate person would have all of these variations at his or her fingertips.

Spoken versus written language

How do we achieve literacy? The first thing to remember is that spoken language is primary: the child learns to talk first, and only afterwards to read and write. However, although everyone has a spoken language, not everyone reads and writes. So from the point of view of the individual, the spoken language precedes the written language. This is also true from the point of view of human history. Writing systems have only been around for some five thousand years. Written language is considered a great invention because it enables us to convey much more information than the spoken language. Before the invention of writing, people had to rely on oral messages, with their limitations on how much could be passed on to a number of people. That is the nature of speech. It is not permanent.

Mala Ramadorai: We have the Vedas which have been transmitted orally.

Dorit Ravid: That's right. We have the Bible that was handed down orally before it was written down. Many people still have oral traditions. But since the invention of printing, books have been available to the wider public. Information can be passed on easily and inexpensively through print. Fewer mistakes are made in transmitting printed knowledge than by pure memory.

Donna Chin Fatt (Jamaica): In Jamaica the child draws a picture and says: "See da man run down da road." But the teacher is going to write: "See the man run down the road," though that's not what the child said.

Dorit Ravid: The teacher should proceed towards the goal of teaching the child the different forms of language. Written language is not better than the spoken language, it is different. A person has to know how to understand it and how to produce it. Discourse ability develops in the

child as he or she grows older. It is not just a function of school. The written text is better organized than a spoken text because it is context-free. There is nothing to help us interpret it. You have to use a lot of metalanguage in order to write and to understand a text.

Being able to detach oneself from the here and now

When we speak about language acquisition and development of literacy, we speak about a general, gradual detachment from the here and the now and the me. When we start talking we speak about ourselves in our surroundings in the here and the now. Literacy means growing away from me, myself, and the here and now, becoming context-free. That's the whole idea of literacy. When I talk, it may be that only my friends and family can understand me, only the people of my country. When I write I should write in such a way that every person with more or less the same educational background can understand me. This is difficult to attain, but this is the ideal we desire.

Literacy starts at home

People labor under the fallacy that literacy starts with reading. Therefore, they think that the earlier they teach children to read and write the more literate they will be. This is not the case. Literacy starts in infancy, at home. Literate homes are different from non-literate homes.

A new study shows how literate and non-literate homes differ even when children are babies. For the first five months all mothers treat their children more or less the same. Most of their language to children is what we call *affective language*, the language of love. But from about five months of age, there is a great difference between literate and non-literate mothers. The moment literate mothers notice their babies reacting to them, the moment they start to smile and make noises, they start talking to them in an informative way. They not only speak about the baby's feelings and physical experiences, they tell him or her things: "Look at this beautiful flower. Look how many petals it has." This, to a child who cannot speak yet. On the other hand, nonliterate mothers use directive speech. They simply give instructions to the children: "Do this or that or don't do it." Of course we all do, but this is not all we should do. Both mothers use language, but even during infancy it can be predicted which child is going to grow up in a literate home or in a non-literate home.

More than survival

This whole attitude of regarding the child as an active partner in language has to do with a certain socio-economic level for a very simple reason. If

you live in a rural society where there are many children and survival is precarious and children die in infancy, what you focus on is survival. You don't have time or patience to use more than directive speech. In a society where infant mortality is low and children can be assured of survival, you think of the next level. The next level is success in life, and success in life entails literacy. In fact the use of the terms rural and urban are generalizations. I said mothers, because the study used mothers. Although in most cases it is the mother who is the main caretaker, fathers also influence literacy.

Books, books, books

The route to literacy starts during infancy at home. It must start there because you cannot teach the child to read and write without his or her having previous experience of what literacy is. So you start with metalanguage. Although this depends on the socio-economic level of the family, it also depends on its priorities. Regarding the child as an active partner in conversation, even when he/she does not know how to speak, is as important as reading books to him/her. What do we achieve when we read to a child? First of all, familiarity with books. When we start reading to children we should always use big, clear pictures and very little text. For example, "Here is a bathtub. Look, it is full of water!"

We shouldn't dwell too much on each page; we should turn it. Otherwise we lose the child's attention, and one of the most important reasons for reading in infancy is to develop the child's attention span. We want the child to be patient and to pay attention. You cannot achieve this if you start teaching a child to read and write without having previously shown him a book. The name of the game is entertainment. Reading should be associated in the child's mind with enjoyment. Use songs, music, and acquire new books, either from the library, or by buying them, or making them - each time on a slightly higher level.

More books

The older the child, the longer is the text. (I encourage you to make a survey of books available in your countries, and classify them. What kinds of materials are available on the market?) By the time the child is three, he or she is addicted to reading. You already have a literate child. You have achieved attention span and familiarity with books, and the child is already aware that there is a variety of language which is different from his/her own - the elaborated code. He/she is already aware that books speak differently than people. By the time this child goes to school, it will come as no surprise that books speak differently.

What to do in a situation of diglossia

If the spoken language is different from the school language, perhaps the spoken language should be taught first and books should be read in the language of instruction, much before teaching begins. If I were a planner of kindergarten curriculum and if I knew these children had to know English, I would concentrate on making the children literate in English by reading books to them. It's not only the caregivers - mothers, fathers, and sisters and brothers - who can do it, it's also the kindergarten teachers who should flood the children with books. You can even write your own stories and use local artists to paint pictures.

Expanding the child's language to literacy

By the time the child is three he/she should know that there is a whole other world out there in stories. There are many things we should do: conduct informative talks with the child, giving him/her new information; use speech elaboration; conduct discussions and dialogues; use jokes at various levels. Adults should use rhymes; play games with the child using language; read, not just prose, but poetry as well. Always remember to hold the child's attention. Parents and children should create a ritual of reading every day or every evening. It is very beneficial in kindergartens to do what is called "story retelling" - telling a story to a child and having him/her retell it to you. The better the child is at retelling, the better he/she will be at school.

Learning to read and write

The actual acquisition of reading and writing comes after the age of six. Some children are able to do it earlier, some later. The child must be able to associate "b" in the writing system with "b" in the spoken language. Reading changes the child's perception of language. When a child learns to read and write he becomes aware metalinguistically of the spoken language. Suddenly he/she is aware of sentences, words, structures. As you have seen, knowing how to read and write technically does not produce a literate person. A literate person is a person who reads as a lifetime habit. Not everyone likes to read. By finding subjects which interest the child, parents and teachers can instill in him/her the love for reading from an early age.

Literacy is doubly important

Unless a child is literate in one language he/she cannot become a truly proficient learner of another language. Unless the child reads in his own language, or first language, he cannot be expected to read in a second language. This is why literacy is doubly important. Finally, it is important to remember that a child who reads a lot is a child who knows more. A child who reads independently has greater chances of succeeding in school. A child who does not read has little chance to fully realize his/her potential.

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Sensory-Motor Integration as a Precursor of Literary Skills

Luba ZUK

Structure of the brain

The brain is divided into two halves, each of which has its own functions. For 80% of the population, the right side of the brain is the non verbal side. It controls visual orientation and processes spatial relationships. It is also associated with musical ability.

Visual orientation means I can see where I'm walking, I can judge from the information I get through my eyes where I am in relationship to other people or objects.

The left side of the brain has the verbal and linguistic areas. This is the side involved with reading and writing.

As I said, the above is not true for everyone, but for 80% of the population. It is believed that in 13 or 14% of the world's population, the exact opposite is true.

Those of us who are left-brain oriented speak a lot. We're logical. We are very linguistic. Those of us who are more right-brain oriented are the musical people. We have more of a sense of dance, of movement. We are good at that because we have a particular ability to perceive spatial relationships.

When we say someone is left or right-brain oriented, we don't mean that side is dominant. If both sides were the same, as we once thought, we could say one side was dominant because it took over a particular function. But that's not the case. Today we believe that each side of the brain has its specific functions and is preferred for that function. So we don't speak about a dominant hand, leg or eye, but a preferred one.

Ms. Luba Zuk, specialist in neuro-developmental therapy; lecturer, School of Physiotherapy, Fackler Faculty of Medicine, Tel Aviv University, and the Arts Institute Project in Tel Aviv. Ms. Zuk started her training in physiotherapy and continued with a specialization in special education and expressive art therapy.

Both sides of the brain have to work together. Processes take place in both sides at the same time. A child with a learning disability could have an abnormality on either side. A dyslexic child, for example, if he has a dysfunction on the right side, is not able to perceive the word as a whole. He can see "bob" and "bing", but he can't put them together and read "bobbing".

If, on the other hand, the child has a dysfunction in the area on the left side of the brain that has to do with reading, he is able to see the word, and in first and second grade he is able to read from memory. But once he gets to the third, fourth or fifth grade, and has to deal with more complex words, he cannot break them down in order to put them together.

So it is very important that both sides of the brain function properly and integrate.

Areas of the brain

In addition to its two sides, the brain is divided into areas. The largest part is called the cortex. It is responsible for all our daily functions: speech, hearing, memory, arithmetic ability, etc. Different areas of the cortex are responsible for the different senses and their functions.

In the middle of the cortex are two areas: the motor cortex and the somato-sensory. The latter is the area that receives the stimuli of touch that come from outside or inside the body.

The primary visual area receives information from the sense of sight. At the bottom of the motor and somato-sensory areas is the primary auditory area. There are two areas - and this is important for literacy - around the primary auditory area. The front part of the auditory area is known as Brocke's Area; the posterior part is called Wernicke's Area. These areas receive information that we hear, make sense of what we are hearing and help verbalize our response.

The olfactory bulb, which is responsible for smell, is in the front part of the brain. The sense of taste is also in the area of the sensory cortex.

The cerebellum, or small brain, is located just under the cortex. The cerebellum is absolutely essential for balance reactions. If I'm standing on a bus and it suddenly stops, I use my balance reactions to keep from falling. The cerebellum is involved in helping us develop all our balance reactions.

There are children whom we call clumsy. When they walk, we hear them: they slap their feet down. They may have difficulty keeping their balance and are easily pushed over. When we look at their legs, we see

they are full of bruises. We can't be certain because we can't take every brain and examine it minutely, but such children may have some problem in the cerebellum that doesn't allow them to develop balance properly.

The cerebellum also has to do with muscle tone. Tone is the tautness, the length of muscle that is needed to, for example, pick something up. If I want to lift a jug full of water, I will need more stiffness in my muscles than if it were an empty glass. What's giving me the message to adjust my muscle tone is, in part, something that is coming from the small brain, the cerebellum.

Another part of the brain is the brain stem. Some of the brain stem's tissue is made up of cells called nuclei, which receive sensory information. The brain stem also has another type of cell structure called the reticular formation, which is very important for taking up and integrating sensory messages: what we see, hear, feel, etc.

The senses

Vision

Vision is an extero receptor - that is, it is stimulated from the outside. Receptors in the retina of the eye take in what we see and relay it to the brain, which deciphers it and allows us to know what we've seen.

Visual input is transferred from the eye to the brain stem where, already at this very first level of integration, the person becomes immediately aware of his surroundings. He doesn't have to think; spatial awareness and orientation come automatically. If I'm walking on the street and suddenly there is something in front of me or at my side, I don't have to think about it - I'm immediately aware of it, of my spatial relation with it, and of what I have to do in response. I have spatial awareness - I'm aware of what's happening in my space - and I can orient, or change direction accordingly.

If you have children with problems relating in space, you need to give them sensory input that will make them move their bodies in such a way that they are going to be able to change. You can play games with them in which something suddenly appears and they have to use their visual sense to adapt.

Visual information is also relayed to the cerebellum and the cortex. The cortex gives us a visual evaluation of the surroundings. In other words, we perceive the sensory image and break it down. The cortex allows the discrimination of the visual components the child sees.

You can make a game out of this for the child. Present him with a picture and ask him what he sees. If you show him a picture of a woman

sitting among fruits and vegetables, for example, and the first thing he tells you is that there is a ribbon around the hat, seeds in the squash and dots on the end of the banana, he is seeing all the little things that aren't relevant. He has to first have an image of the whole, and then break it down. Similarly, when the child reads, he has to have an image of the whole and then break it down.

The cerebellum controls the muscles and gives them the exact amount of input needed to allow you to focus and follow a visual stimulus. If the muscles don't work properly, you are not going to be able to maintain your focus.

You can do exercises with children to have them focus and follow in all different directions: up, down, side to side, in and out, in a circle, on a diagonal. Such exercises can help develop the visual sense.

Hearing

The auditory sense consists of two completely different parts. One is hearing. This, too, is an extero receptor. Receptors inside the ear accept the sound, relay it to the brain and help decipher what we are hearing.

The cochlea inside the ear contains the sound receptors. Sound waves bombard the cochlea, and from here the discrimination process starts. The information is then relayed to the brain stem, where it is integrated. Here, at this very primary level of development, several processes happen. First, there is interaction with visual centers. If I want to cross the street and a car comes tearing along on the side of me, I not only see, I also hear it, and I react automatically. Just as we have spatial orientation through vision, we also get orientation through sound.

Again, there is something you can do with your children. You can make different sounds and relay them to the child, and ask him to tell where they are coming from. I ask the children I work with to do this exercise: when you are out walking, stop and close your eyes. Listen. When you get back home, write down the sounds you heard, or remember them. It is a wonderful exercise, because suddenly they begin to be aware of their ears and begin to develop their auditory sense.

Children who have problems with auditory perception can sit in the classroom and be distracted by every sound from outside. They cannot concentrate, not because they are hyperactive or hyperkinetic, but because they can't pick out the teacher's voice from the background noise.

In addition, auditory information goes to the cerebellum and the cortex, where it is integrated. It goes through Brocke's and Wernicke's areas, which allow us to understand what we hear.

Understanding sounds is something that we learn, and goes together with vocalization. In Hebrew, "aba" means daddy; "ima" is mommy. One of the first sounds a baby starts to make is ba, ba, aba. Why does he say this? Not because he recognizes his dad. It is because at six or seven months of age he has the motor ability to make sounds like "ba" and "ma". He never says "da" first, because that is a more advanced sound process.

In a Hebrew-speaking home, parents hear the baby saying "ba ba" and get all excited, and say, "Oh, he's saying aba" and point to aba. In an English-speaking home a similar thing happens when the baby says "ma ma". Eventually the child learns to relate the sound with our reactions. When he says "aba" and dad gives him a big smile, the child thinks, what a wonderful reaction I get from this. So he continues to say "aba" and that becomes "dad". In this way, the child begins learning to speak.

Vestibular system

The second part of the auditory sense is called the vestibular sense, which has to do with balance. This is an intero receptor - it is stimulated from inside. It is connected anatomically, but not functionally, to the cochlea and is part of the inner ear.

The vestibular sense is what allows us to adapt our position in space. When I turn my head, it reacts and adapts to the turn. When we turn around and around very fast, we fall over and may even get a feeling of nausea. The vestibular sense has not had time to adapt. The vestibular system consists of three canals, known as the semi-circular canals. These canals are filled with fluid. Every time we move our head, we change the position of the fluid in these canals. The fluid contains receptors for the vestibular system. There are receptors that sense the direction of movement and receptors that sense speed of movement. These two types of receptors react together.

There is a complex in the brain stem level known as the vestibular nuclear complex. This is where these stimuli are absorbed and integrated. Unlike the other senses, here the stimuli are not sent to the cortex; instead, immediately at this primary level we send messages back to the spinal cord, together with added input from the cerebellum, and our bodies are told to get upright, to regulate our balance reactions without our thinking - automatically.

In addition, the vestibular system helps us maintain the stability of our gaze as our head moves in space. So I can walk along and read a sign at the same time and not fall over.

Also, the vestibular system maintains a stability of posture in space as the head moves. In other words, I can move my head from side to side without changing the position of my body. And that, as we have seen, does not demand any input from higher levels of thinking. It is automatic and immediate.

The occupational therapist Jean Ayres has a theory which, although it has not been entirely proven, has become a basis for almost all work done with learning disabilities in sensory integration programs. Ayres believes that the stimuli that come through the vestibular system go not only to the brain stem, but also get integrated in the cortex. Here a whole different group of functions takes place. The vestibular system, through the cortex, gives us information on where we are in space, how fast we need to move or change direction, in which direction we need to go, and so on. This is information we think about. If I see something in front of me, I can figure out how fast I need to change position and which direction to change to in order to avoid bumping into it. Or, if I'm writing the letter "R", I know where I need to change the direction of the line.

In other words, Ayres believes that the vestibular system has a very big role to play in motor planning and motor learning. How I use my hand when I shape letters involves motor planning and learning. It means I can relate to my position in space and apply it to reading and writing.

Children enjoy turning around and around because their vestibular system is not yet fully developed. In fact, the system needs movement to allow it to develop. Little kids just adore it when you put them on a carousel and turn them around and around for this reason.

When you are riding in a car or train and are reading, and get nauseous, it is because the vestibular system cannot cope with all the movement it is being bombarded with. That's why some people get carsick - their vestibular system can't cope with the stimuli of the car's movement.

Kinesthesia

Kinesthesia is the awareness of the body, its movement and position in space, and the movement of each part of the body in relation to the others - without the input of sight.

The kinesthetic sense is divided into two systems. One is the tactile, or touch system. The other is a much more complex system known as the proprioceptive system.

Let's do a little exercise. First give yourself a light massage on your arm. Then scratch, then pinch. Listen to what you are doing to yourself.

Feel the differences. Remember where you feel them. If you want to close your eyes, do so; I find it helps me to concentrate.

Now put your hands on your seat and push yourself up to a standing position. Push hard. Do it a couple of times and listen to your body while you do it.

Where did you feel the sensations? The first time, you felt them on the skin. The massage felt comfortable. The scratch? Also not too bad. But when you pinched? It was not so good. You reacted emotionally as well as motorically. But you felt all these sensations in the same place, on the skin.

When you pushed yourself up, where did you feel it? In your wrists, shoulders, neck and legs. This demonstrates the difference between the tactile and proprioceptive systems.

Tactile receptors are in the skin. Any stimulus that comes from outside through the skin activates the tactile system. But when you pushed yourself up, you used the proprioceptive system. These receptors are in the muscles, joints and bones.

The proprioceptive system tells us where we are in space. This is very important for literacy. If I don't know where I am in space, how will I know what is forward and what is backward? How will I know what is at the side? When I want to write the letter "H", for example, I have to move the pencil in a certain direction. If I don't know where I am in space, I can't relate to the directions involved in writing the letter. I am the center of my world. It is from my body image that I begin to relate to everything around me.

Touch

The tactile receptors in the skin send input to the brain stem and cortex. We can have a reaction on the spinal cord level, which is a reflex. If you put your hand in boiling water, you will move it away immediately. You don't need to think about it. From the cortex we get many different responses. We can have an emotional behavior response, a motor behavior response and a motor planning response.

The tactile sense, together with the visual and auditory senses, give us our "fight or flight" mechanism. If you go for a walk in the woods at night and suddenly a branch touches your face, what are you going to do? Are you going to scream and stay paralyzed on that spot? Are you going to run for your life?

The hyperkinetic child reacts very strongly to tactile stimuli. His body is in motion all the time because everything stimulates him. He

touches his body and has to react to it. He sits on the chair, and has to react to it. Whatever happens to him, he has to react.

The hyposensitive child has trouble reacting to stimuli. His tactile sense is poorly developed; his reaction time and ability are poor. The nipple is one of the most sensitive parts of the body; if you twist a child's nipple and he does not react, he may be hyposensitive. The hypersensitive child, on the other hand, reacts to everything. He is jittery. However, he may become the child who at age four or five sits quietly in the corner. If he moves he will have to react, so he learns to cope by becoming apathetic and quiet. The hyposensitive child looks for stimuli; he is the one who rocks or bangs his head. This child has a poor body image because he cannot feel himself. He is looking for tactile input so he can feel his body.

Proprioceptors

The proprioceptors, as the receptors of this system are called, are found in the joints, muscles, ligaments and periostium (bone). The system helps us to be motorically efficient in space, to move with the proper muscle tone. The system regulates the tone and strength of my muscles so that when I pick up a jug, I can take into account whether it is full or empty. In other words, it helps me adapt my movement to the stimulus. The stimulus is the jug; or it could be a letter I must write as a capital and not a small letter. I need to regulate my tone and strength so that I have enough movement to write the bigger letter, and not have it come out with squiggly lines or dots all over the place.

As you sit and listen to a lecture, every now and then you change your position, even without thinking. Why? Your proprioceptors are saying: you've overloaded me. I'm tired. If you sit too long on one part of your body you get "pins and needles" because the proprio system is overloaded.

The proprioceptive system is so efficient, it helps us use the minimum amount of energy for the maximum amount of function. So when I walk, I don't walk heavily like that poor clumsy child. I can adapt to whatever surface I'm walking on. If I'm walking uphill, I change what I'm doing with my body to allow me to walk efficiently uphill. When I walk downhill, I change again. I can walk without getting tired. But if my proprioceptive system, together with other systems - obviously, they must work together - doesn't work efficiently, I'll get tired very quickly because I won't be able to adapt, and I'll use too much energy.

The proprioceptive system acts without the need of input from higher cognitive functions. It allows us to function automatically, so we can be

efficient in our motor planning. When I ask a child to sit down, stand up, and so on, I expect him to make these movements without having to think about them. This is called automatic motor planning.

I once had a patient, a girl of four. She was very bright and wonderfully verbal; you could speak to her about anything. But when I asked her to sit down, she said, "Just a minute". I could see she was thinking how to organize her body, and after a while she sat down. She had no problem with verbal interaction, but when it came to having to use her body, she could not automatically relate to changing her body in space. So she had problems sequencing. She couldn't write one thing after the other, or do anything one after the other.

Taste and smell

The gustatory, or taste, and olfactory, or smell, senses are also extero receptors. The taste receptors are in the tongue. They provide not only sensations of sweetness, sourness, etc., but also of shape. When is the first time a baby learns what a circle is? When he sucks. When he takes his mother's nipple into his mouth, he feels it is round.

We know that from the age of about five months until just over a year, children have to put everything into their mouths. They are exploring not only through their hands and eyes, but through every sense. When we see them putting things into their mouths and we tell them, no, don't do that, actually we're not right. We want them to put things into their mouths; it is part of their learning. If a child comes to school and hasn't been exposed to shapes, hasn't seen them, felt them in his hands, felt them in his mouth, he won't suddenly know what to do with them. Of course, we have to make sure that the objects are not small enough to be swallowed.

In the same way, the child needs to finger-feed. He needs to touch the food, feel its shape, its textures. All this is part of the sensory stimulation that is absolutely necessary as a basis for learning.

Brain development

Brain development starts at the moment of conception. During the first four weeks in utero, what is known as the neural tube is developed; later, this becomes differentiated into the brain and spinal cord and all the neurological connections that go with them. Neurological development is an on-going process that lasts until about the age of 15 years. But 90% of the brain development takes place in the first four years of life.

Development is not the same as maturation. Development means that all of the brain's areas are laid out, that the child can function. When we

look at a child of four, we expect to see certain developmental abilities. He is not yet mature, however. But maturation overlaps development. While the brain is developing in the uterus, it is already undergoing processes of maturation.

When a baby is born his brain has soft spots, called fontinells and sutures, which are basically openings that allow the brain to continue growing. If a child is born and the fontinells close too early, an operation may have to be done to open them. These areas gradually close; by about four years they are almost completely closed.

During the first year it is important to measure the circumference of the baby's brain, because that is the only way we know that the brain is developing normally. We check to see that the brain is growing more or less according to the average curve.

The normal head circumference of a newborn is about 35 centimeters. At one year, we expect it to be about 50 centimeters. So we have a growth of about 15 centimeters that first year.

Of course, size doesn't tell us everything. Some children have big heads. Maybe the members of their family all have big heads; we have to look at the child in relation to his family. We know that Yemenites, for example, are generally small people. Their children have a smaller head circumference, but they are just as well developed. It is just that their genetic makeup is different.

Just because the head is large doesn't mean the brain is. You all know the problem of hydrocephalis. Cerebro-spinal fluid collects on top of the brain and may cause arrested development. The circumference may seem normal and then suddenly get larger. Or the problem arrests itself and the circumference doesn't increase in size. The main thing is to make sure that the size is changing more or less according to the norm. If it deviates too much or too little, then you have to check to see if there is a problem.

What is the requirement, the "food" needed for brain development? It is the stimulation of the senses. If children come to school at age five or six and only then begin to be exposed to sensory stimulation, they are in trouble because they've been deprived. Their brains haven't been given the food they need. Just as we give a baby milk so his body will grow, so is sensory stimulation absolutely essential for the development of the brain.

Two major research projects were done to test the importance of exposure to sensory information during the first four years of life. The first project tested vision. The researchers took two groups of mice. With both groups they made a lesion in the visual area of the cortex to interfere

with its development. One group was a control group. Then they bombarded all the mice in the research group with visual stimuli. After a certain amount of time, the corresponding area of each mouse's brain was examined anatomically and biochemically.

The researchers found that those mice who had received the sensory input had changes in the visual area of the brain. Brain weight increased in that area. In other words, they improved. In the mice whose vision had been interfered with, who did not receive sensory input, there was atrophy and death of cells. There was deterioration to the point of actual blindness, in some of the mice.

Then the researchers started checking what happens with children. They didn't do any damage to the children's eyes or brains, of course; instead, they took children who had been born with a squint or lazy eye. If treatment wasn't administered within the first 18 months of life, the children developed visual problems, and atrophy was found in the brain tissue of the visual area.

What do we do to improve a lazy eye? We cover up the good eye and make the lazy eye work. But the stimulus is vision. The child wants to see. It is very important for the child to develop this area of the brain, and the critical time is the first 18 months after birth.

The second research project dealt with speech. It proved that babies need to be spoken to. They have to hear in order to develop their speech area.

Some mothers have a hard time making contact with their babies, speaking to their babies. Not all of us can just speak freely to the baby we have in our arms. One of my goals as a therapist is to teach mothers to interact verbally with their babies -- not only to coo to them, but actually sing to them, speak to them, let them hear music, let them hear the other children around them. Children need a lot of auditory input in order to develop their speech areas and be able to speak.

We know that in some cultures speaking is not so important. If the child remains in that culture and environment, that's okay. This is not as important as it would be if he were, for example, here in Israel, or if he went to America. There, if he can't speak, he really has a problem. But it's a small world and we have to be able to interact across cultures.

In summary, we see again and again the need to give sensory input from birth onwards, and not wait until the child comes to school.

At the same time, since the brain is not mature in the very early ages, we have to limit the amount of stimuli we present to our little babies. Only from a later age can children discriminate and pick out what they want from a whole barrage of stimuli.

Sometimes a baby is exposed even before birth to a great deal of very loud rock music. We know for sure that the fetus is able to hear. Research has proven this fact. The newborn in the first six weeks of its life has an ability called habituation. It is one of the responses a newborn is checked for. Habituation allows the baby to shut out stimuli that are noxious -- that is, harmful and unwanted. Hopefully, this is also what helps him to shut down against heavy rock music.

If rock music is playing in the house all the time, it becomes part of the child's background. He doesn't shut down; he just stops paying attention to it. If he is normal, he should be able to concentrate regardless of the background. Different children are used to different backgrounds, just as adults are. Some of us like living on a busy main street; others need quiet.

I'm reminded of a mother and five-month-old child who came to one of my courses. The mother said: "He screams non-stop. There is nothing I can do with him." I took the baby and realized his tempo was very slow. So I slowed down everything I did with him. I turned him over slowly. I picked him up slowly. And the baby was wonderful. He didn't cry at all. Afterwards, the mother said: "I don't understand it. Why is he so quiet with you?" So I tried to explain to her that his rhythm was not the same as hers. She had to change to his, because he couldn't adjust to hers. She plays in an orchestra, so she said: "Oh, he's legato and I'm staccato." Once she realized this, there was no problem.

Habituation is also a learning mechanism. The child learns to react to stimuli. One way we check habituation in a newborn is by shining a light into his eye. When we shine the light, he blinks his eye and the pupil goes small. We do it again, and the same thing happens. But by the third or fourth time, he doesn't react. The reaction is learned.

The critical periods of brain development begin during gestation (development in utero) - from 12 weeks gestation until three or four years after birth. During this time, the brain is always at a higher risk for damage.

If a baby is born preterm, he is at particular risk. His systems continue to develop, but conditions have changed, and that in itself is enough to put him at risk. But even a baby that is born at term may get sick, get encephalitis or meningitis or high temperature. So this is a critical period we need to know about.

Plasticity

The brain has a plasticity ability which enables it to rehabilitate itself. This plasticity is or can be particularly active in the early stages of

development. Plasticity begins developing in utero and lasts throughout most of our life, but the process of plasticity changes as we grow older.

In the young child, plasticity means that if something happens to interfere with the development of the brain, the brain can stimulate itself to the point that it will start using cells that have never been used before. (The brain is made up of millions upon millions of cells, of which we use only a minute amount). Let's take the squint we mentioned. If it is not treated the brain atrophies, and, of course, that will create a problem with seeing. But if we intervene at that stage with sensory stimuli that force the eye to see, this message is relayed to the area of the brain, and that will stimulate other cells to work. We are, in effect, getting changes in the brain tissue.

The younger the brain, the more it is able to rehabilitate itself. We find that a baby born preterm, even more than two months early, has a better chance of stimulating plasticity in a situation of oxygen deprivation than a baby born at term.

So we see that plasticity is very important for rehabilitation. The same plasticity exists for all of us when we are learning. If we didn't have the ability to correct our mistakes and change what was happening in the brain, we couldn't learn. The cerebellum is the area in charge of plasticity.

Take, for example, climbing steps. In most countries, steps are of a standard size. So we adults know exactly how high to lift our leg to step up. We've learned what to do in order to climb those steps without falling down. But if we look at the little child, we see that the first time he goes to climb the step, he lifts his foot too high and misses. The second time, maybe he'll lift it a little less high; eventually, he lifts it the right amount. From then on he begins to climb the steps without any problem.

What happens to us if we come to a new building where the steps are not the standard height? Suddenly we find ourselves missing, and we have to make corrections. We have to learn. This, too, is plasticity.

The brain has two plans of action. One goes to the appropriate parts of the body. The second goes to the cerebellum. The cerebellum waits to see what the body does, then compares what was done to what should have been done. If they're not the same, the cerebellum tells the brain to change the plan.

Sensory-motor integration

Sensory input is needed for the motor component to develop and function. It is needed for the emotional component to develop as well. Although I won't be discussing the emotional side in detail, it is just as important as

the motor. We need to be able to feel, and we need to be able to react to what we feel. We don't want a child to be apathetic to everything around him. We also don't want him to overreact, to cry at every little thing.

There is an order to the development of the senses. The first to develop is the tactile sense. This goes together with the proprioceptive system. These are the first two sensory systems that develop. Even when he is still in utero, the baby reacts to the touch of himself. We can see this through ultrasound. The fetus touches his face. He already has a rooting response. He turns toward his thumb. He puts his thumb in his mouth. All this doesn't start happening just when the baby is born.

The fetus is surrounded by amniotic fluid. It presses on him and stimulates his skin, and he responds to it. That is the beginning of touch. He turns his head. He turns over. He moves his legs. He moves his hands.

Next, the vestibular sense develops. It starts at about nine weeks after conception. When the fetus is two months old, it is already developing the vestibular system that is going to allow the child to cope with balance and movement at a later stage in life.

The next things that begin to develop are the taste and smell systems. After that the hearing and speech systems develop. Now the fetus can respond to sound. There was a very famous research project in which pregnant women were put in sound-proof rooms and connected to monitors, and exposed to two different kinds of music. The researchers found that when they played rock or disco music, something that was lively and full of rhythm, the fetuses became much more movement-conscious and started to kick and move around a lot in the uterus. Their heartbeat and pulse increased. Their movements were much more vigorous. When those same mothers heard classical music, the fetuses moved much more calmly, not as vigorously as before.

We learn from this that the baby hears and responds to sound while in utero. After birth, it is very important to speak to the child, but, more than that, to change our intonation. We shouldn't speak baby talk, but speak as we would to an adult. The child hears, receives, and puts it down in his brain; at a later stage he will respond.

When our children answer the telephone, people think they are us. Why? Because they have copied the music of our voice production. This is part of learning; it is part of what we need to give at a young age.

The last sense to develop in the uterus is vision. It begins in about the 33rd or 34th week. By the time the newborn comes into the world, all his senses are developed well enough for him to respond. We can forget

those old wives' tales that the baby sees upside down or doesn't see until he is six weeks old. That's not true.

There are many systems that govern the development of movement and function. The first thing that has to develop is what we call the postural mechanism. This consists of two systems of reaction. One is an inborn system of righting reactions; the other is a system of balance reactions that is developed.

The righting reaction is the drive to come upright, to get to standing and walking. It is a group of reactions pushing the child against gravity. The baby begins by laying on his stomach. Eventually, he sits up, or comes to his hands and knees and from there to sitting. Once he is on his knees, he can start putting one leg forward; eventually he gets into the upright position where he can start to walk. All the time he is going against gravity, toward the upright position. These are stages of motor development.

The righting reactions get the baby up; the balance reactions keep him there. It does no good to get to a position if the child can't stay there.

Without these developing reactions, sensory-motor integration will be interfered with. Take, for example, the child with cerebral palsy. He has a good sensory system. He sees. He hears. He feels. But his muscular system, his postural mechanism, does not function correctly. So while he can get all the input we want to give him, he can't do anything with it.

The central nervous system also has to develop for there to be sensory-motor integration. This makes it possible for the brain to accept messages, integrate them and do something with them.

The next thing that has to develop is something over which we have no control: the genetic code. This takes place on the chromosomal level. If there is something wrong on this level, if the genetic code is not right, it makes no difference what we do.

The muscular skeletal system - all the muscles and bones in the body - must develop in such a way as to make it possible for the child to react. Children with muscular dystrophy, even though their sensory system is working, even though everything else is normal, can't respond to stimuli because they have a problem with the muscle itself. Those who have a problem with the development of joints or bone length also cannot react properly.

There are many developmental problems which we cannot change. But one thing we can change - and it is not less important than all the rest - is the environmental experience. This is where we, the educators and others who deal with children, come in. This is just as true for normal

children as for abnormal ones. Environmental experience is vital, even if the child is born with all systems completely normal.

By rolling, crawling, walking, pushing along and so forth, the child learns many things. Take crawling as an example. The child crawls under the table. He crawls under the chair. He stands up. He crawls and stands up next to the chair and he is bigger than the chair. He's smaller than the table. When he crawls under the table, the table is above him; the floor is below him. He is experiencing the environment and learning concepts. He is learning the concept of bigger than, smaller than. He is learning above, below, behind, in front of. Our body image has to be internalized to allow us to understand direction, and we must understand direction if we are to learn to read and write.

Cardboard boxes are the most wonderful things to use. The child can do anything with them. He can climb through them. He can climb over them. He can go around them. He can climb on top of them and jump down. This is sensory input - for eyes, ears, position sense, body sense. The child is developing a conceptualization without which he will not be able to read or write.

Movement like this is essential. It should be part of the curriculum every day, or at least three or four times a week. It doesn't require a highly trained person to come and do.

Children who have problems with reading and writing have problems with their own body image and how they are and react in space. If the child cannot relate to himself and to space, if he hasn't learned all these different concepts, he will have trouble. He may be okay in the first and second grade, but later, when he will have to achieve higher cognitive functions, he will have difficulty, if he cannot relate automatically to his body.

When the child arrives at school and is taught the letters of the alphabet, he must already understand concepts of size and direction. If he has a problem with size, for example, he may not be able to distinguish between an "I" and an "L". When he writes a "P", should the stroke be in front or in back? When the teacher says go to the head of the page, he must know that the head is at the top.

I once worked with a child who had problems reading and writing. I asked him where his head was, where his arms were. He answered correctly and pointed out the body parts on himself and on me. But when I asked him to draw a man, he drew all the body parts in a long line, with no connection among them. He had internalized his body with no directionality. He had no concept of front, back, top or bottom. Our body

image has to be internalized to allow us to understand direction, and we must understand direction if we are to learn to read and write.

A very big study was done in Maryland, USA by a pediatrician named Murray Kappelman. He found that if you identify learning problems and intervene in the first or second grade, the chance of successfully making it possible for these children to cope in normal society is about 80%. But if you intervene only from the third grade on, the chance of success is just 35%. The older the child is, the more difficult it is to change things.

In such a child, even more than the reading or learning problem, there is an emotional problem. The child is frustrated. He has a normal IQ but he can't make use of it. Such a child deserves intervention and treatment, but you have to know that you may be limited in what you can achieve. If you can allow him to cope with his problems, you've accomplished a great deal.

Even in such cases, by the way, we go back down onto the floor and work with movement. It is important even with a child of nine or ten years of age. Movement is the forerunner of other functional areas of development.

An expressive arts therapy exercise

This is a non-verbal exercise. Each person needs to work with himself and not talk. If you feel you can't do that, fine; I know there are people who have difficulty with this kind of work. In that case, you need to sit quietly and not disturb anyone else.

The first part of the exercise involves using all the senses, but without sight. There are some people who have great difficulty closing their eyes; that's also okay.

Close your eyes. Take a deep breath. Breathe in and out and let out all the thoughts that are in your head. You have a piece of paper in front of you. Feel the paper - its size, its texture, its width, its borders. You have different parts of the body you can use to feel it. You can use not only your hands, but also your face, feet, arms and legs. You can sit on the paper. You can stand on it. You can kneel on it.

Feel what you can do with the paper. What kind of texture does it have? What kind of sound does it make? How does it feel when you touch different parts of your body with the paper, or touch the paper with different parts of your body? Does it feel the same when you use it through your feet, or through your hands, or through your head? Are the borders the same? How do they feel?

When you've explored the paper enough and feel satisfied, fold it up or squash it into the smallest piece you can. When it changes its shape, can you do other things with it? What does it feel like when it is so little? Are the sounds different? Can you still use your body with it the way you did before? Now you have to look for other ways to work with it. Do you have to use more or less effort? What senses are you using now?

When you feel you've explored this enough, open it up and bring it back to its full size. Explore its texture and see if it is the same again. Does it make the same noise?

Does what you feel have any associations for you? Does it remind you of anything or feel like anything you think of?

When you've explored enough and feel good with it, start tearing the paper up. When you've torn it to your satisfaction, open your eyes. Now I want you to build something with what you've got in front of you. Here there are all kinds of materials you can use: crayons, scissors, glue, sticking tape, confetti. You can take more paper if you feel you need it.

Now let's share our experiences. It is very important that there be no criticism. Each person has his own experiences and reactions. Nobody says, you should have done it this way. And I don't get upset if somebody says he hated the whole thing.

Donna Chin-Fatt (Jamaica): Suddenly, the world of paper was wonderful. I stopped thinking of it as just a flat object; I wanted to smell it, hear it, taste it, feel it against my face and other parts of my body, feel its texture and thickness. But no picture came to my mind, just feelings and colors flashing. So I didn't particularly enjoy opening my eyes. When I started building, I couldn't think of anything in particular and just moved one piece after another. It just flowed.

Luba Zuk: What you make doesn't have to represent anything. This is an important point in expressive therapy. If I tell a child to build something specific, say a house or a flower, immediately he thinks: what if I can't? What if it's not as nice or as good as someone else's? He may fail. So he withdraws into himself. But if whatever he does is good, that creation is a part of him and it is always positive. There's no competition.

Debby Mue (Fiji): Initially, I was very apprehensive when I saw the crayons and those sorts of things because I really worry about not being able to draw. I started at first to put the scraps of paper in a sort of chain. Then I thought, no, I want to represent the landscape of Israel. I hesitated, though.

Luba Zuk: What you draw doesn't have to be perfect. The point is that you've created something that gives you a feeling of satisfaction and

self-confidence. If I had said take a crayon and draw me a picture about Israel, it would never have come out.

Debby: I needed more time, though.

Luba Zuk: Some people can work for hours; others work quickly. But somebody has to be a timekeeper. Children need to know there are limits and they have to finish something within a certain period of time. They need to know there is a beginning and an end.

Goretti Phiri (Zambia): When you said to fold the paper, I thought of triangles, so I folded it into triangles. When we had to tear the paper, I didn't want to disturb the triangles, so I tried to tear by feeling. Then I thought, what should I make from these triangles? The hut came to mind. I decided to join triangle to triangle. I had to cut paper, but there were no scissors so I used my hand and teeth and joined the triangles with tape.

Luba Zuk: You used many different senses. You also showed how you can be creative with few tools. There were scissors, but you didn't see them.

Sanu Amatya (Nepal): When I closed my eyes, I remembered my house and especially my daughter. She likes mango fruit very much, so I made her a mango tree.

Luba Zuk: You had a very strong association. When our eyes are closed we use all our other senses, and become aware of all sorts of things. Did the paper have any meaning for you when you were working with it?

Sanu: I felt cold. When I tore the paper, I felt relaxed.

Elfreda Famador (Philippines): I enjoyed all the movements and the creativity. I associated the smoothness of the paper with the glass of an aquarium. I enjoyed the sound of the paper being torn, not only mine but that of the whole group. It made me think of flowing water and the splash of waves. So when you instructed us to do something with what we had, I used colors expressing fishes in an aquarium or pond, with blue pebbles and the sun glittering on the water.

Luba Zuk: This kind of exercise can help the child open up and express himself more easily. It can prompt him to tell a story. It may not necessarily be a positive one like Freddie's. Once I had a child who came from a home where he was not allowed to express himself freely. He said he hated the music I had played for him. So I said, "Show me how you hate it". He asked, "what color is hate?" I said, "That's for you to decide. Hate for me is not necessarily hate for you. "So he picked up a green crayon and started to scribble on the paper over and over and over.

He learned that if he had emotions he needed to bring out, he could do so using color and paper, and he could do it at home in a place where his mother didn't see.

Francisca Shai (Lesotho): I don't like closing my eyes, so this was a terrible exercise for me. Everything closed down in my mind. When you said to tear the paper, I didn't know how to do it, so I just did it in any which way. When you said to do something with the papers, it was a horrible thing for me. I put the pieces together any which way. Then this little something here reminded me of Jesus Christ. So this is the child Christ being born, this the mother, this the father, these the boys who went to see him and this the star.

Luba Zuk: So in the end was it such a bad experience?

Francisca: It got better.

Luba Zuk: This shows you that one thing leads to another. Everything may seem random at first, but then we have an association and things begin to achieve an organization. Working with paper becomes like sequencing.

Debby: I'm interested you should say that, because I had the overall picture first and only then worked on the sequencing.

Luba Zuk: Everybody approaches it differently. We can start with the whole and break it down, or start with small pieces and build them up.

Mala Ramadorai: (India): I realized how much we rely on sight. I knew an origami master who was blind. When I folded the paper with my eyes closed I tried to copy him, but after the first two sequences it became too complicated. When you told us to tear the paper, I couldn't bear to do it. I put half aside and only tore the other half a little bit.

Once I started working with the crayons, I thought, if I can tear the paper, why can't I break the crayons? So I broke the crayons. By accident one piece of crayon fell in the middle of another color, so I started working with it. Since you said it doesn't matter what we make, I decided to leave whatever I had. If you asked me what it was, I'd say a house.

Elizabeth Gwei: (Cameroon): I felt one side of the paper was coarse, so I thought of coarse material; the other side was smooth, so I thought of silk. I rolled the paper around my arm and then put it on my face.

When you said to tear the paper into pieces, I thought that if I tear it into tiny pieces and you asked us to fit them back, what would I come out with? So I decided to stay with bigger pieces.

Luba Zuk: I didn't say tear it into tiny pieces; I just said pieces. But in your mind you added "tear it into tiny pieces".

It's significant that you first experienced the paper on your body. You can do this exercise in a more directed way and instruct the children specifically to feel the paper on the various parts of their body, then create something that represents the body. This is better than having one child lie down on paper and have another draw his body, because it is not internalized in that way; it's more like copying. The child has to feel and internalize his own body image.

Maseobi Moeletsi (Lesotho): Putting the papers together was difficult for me. So I decided to just color the paper. When I was coloring, another thought came to mind: why don't I make patterns? I made one pattern and then another.

Luba Zuk: So you worked with a lot of sequencing.

Maseobi: Yes. I even regret now taking a small paper.

Luba Zuk: I purposely had different size papers because some people can work with a bigger piece - they can spread themselves out more in space - while others need smaller areas to work in. In this kind of exercise we can learn things about ourselves: that we can work with more than we thought, or that we need to work with less.

If there are children who have problems with borders or limits, you can have them go from a larger piece of paper to a smaller one. You can have them stand on the paper and not be allowed to go beyond its limits. You can have them feel the paper's borders with different parts of the body. Little by little they begin to see that they can maintain the smaller limit. This gives them a direct physical experience of a limit.

Alganesh Gebrehiwet (Eritrea): I thought of my mother. When I left her she was praying. I drew her praying and the color of the dress she wore.

Luba Zuk: You can get very strong emotional experiences with this type of exercise. When I do this kind of work, I work together with a supervisor, psychologist or family therapist, who can give me help if I need it. Sometimes, we need to talk things out with the child and act accordingly.

Conclusion

This exercise gives us an insight into the child and helps us identify things that need to be worked on. You can take it and develop it into any number of things.

The exercise has a number of goals. First, the child becomes aware of all the senses. Second, he has to follow a sequential order. Many

children have trouble doing things sequentially. When you work with this type of exercise, the child gets so involved in it that he doesn't even realize he is following an order and doing what you ask him. It works wonderfully on the development of fine motor coordination. It also helps develop concentration.

The exercise involves breaking down and putting together again, just as learning is a process of breaking down and putting together. It also has an emotional side: we see that if something falls apart, we can put it back together. That's how life is - we take what we have and build from that.

Very often, children have great difficulty closing their eyes. So you shouldn't demand it. You can help them get over this difficulty slowly. At first, let them keep their eyes open. Eventually, you may get to the point where you can have them close their eyes at the count of four or five.

I never demand anything in this type of exercise. It is free work. It allows children to develop their abilities at their own pace.

Some children work easily on their own; others need more structuring. So you need to keep your eyes open and see which children need a helping hand so they won't feel lost.

You will almost certainly not be able to give the children such a long exercise. Instead, you will have to break it down: one day just for feeling the paper, the next day just for tearing, the next for building up what they tore. Maybe, after several months of work, you will be able to put it all together and give them the whole lot at one go.

I don't do this exercise with children under four or five years of age because it is a very difficult exercise for a three year old. A three year old can only tear. This is a very involved process for him; he may tire quickly and become frustrated.

The final result, the child's feeling that he has achieved something, that feeling of self-confidence, is very important.

Not all of you were prepared to explain or describe what you had done. The child should not be forced to give an explanation.

At first he finds it difficult to explain, but he sees that others do speak. The next time he thinks, maybe he'll try this time, and he gives a little bit. If it is accepted, the time after that he will give a little bit more. He is building up confidence.

As educators, we have to give positive feedback. We have to accept the child's creation for what it is, and not impose our own norms and expectations. It is a process of building up trust and acceptance that is radically different from the traditional kind of teaching where everything has to be just so.

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The Developmental Bases for School Adjustment and Achievement

Galia RABINOVITZ

Assumptions

The developmental approach to human psychology believes in sequences of changes in the cycle of a person's life. Pregnancy influences infancy; pregnancy and infancy influence early childhood; pregnancy, infancy and early childhood influence the school years; and pregnancy is influenced by what happened to the parents beforehand. Each stage prepares the child for the next one and is influenced by what happened before.

If something goes wrong in one of the stages, and not enough is done to meet it at the time, sometimes the carry-over lasts until death. In the language of Gestalt therapy, its "unfinished business". For example: babies need to suck. If they don't have enough breast-feeding, they suck their thumbs or a pacifier. If this need is unsatisfied, the child will go on looking for things to suck in a later stage.

Another example: babies need dependency, physical closeness and warmth. If left alone in infancy, they will look for ways to compensate for this hunger at a later stage and will not have enough time and energy for school.

This developmental approach underlies the work we do at the Child Development Center of Tel Aviv with both normal and troubled children, planning programs for young children so that they'll achieve their basic potential for well-being in life, learn as much as they can, and practice what they learn. It is itself based on three related theoretical assumptions.

First, familiarity with deviation and normalcy helps the therapist see the normality of the problematic child and the warning signals in the development of normal children. This helps in early intervention, as early as possible, with an eye to prevention before the child requires therapy or special education.

Second, every child who enters an educational framework brings his whole family with him. One cannot plan a change for a child without considering how it will influence the whole family.

Galia RABINOVITZ, Specialist in Child Development and Gestalt Therapy, Tel Aviv Development Center and Tel Aviv University, Israel.

For example, child psychotherapists in Israel used to take a youngster and make him abler to stand on his own, but then the family would crush him again because they couldn't tolerate an independent, strong child. They needed the disturbed child they had had before.

Some programs used to send very talented children to boarding schools and give them the advanced education their intellectual abilities merited. These children felt torn by grief over the families they'd left behind and the siblings who didn't receive this enriched education.

From these mistakes, we learned one cannot plan any change in young children or even adolescents without considering the family, who in the family unit supports the child and who is against change because it disturbs the family's basic structure.

Third, the child and his parents are viewed as whole people. In this Gestalt-oriented, holistic approach, cognitive development is viewed as influenced by emotional, physical and social development. One cannot treat the child in specific, departmentalized areas and ignore other influences on his behavior and development in other areas.

Six is an age of all kinds of maturational processes, neurological included, which is why at age six, early childhood ends. Then the child enters the middle years, the school years. What must the child acquire emotionally, physically and cognitively so that he will reach school ready to learn? We know from modern studies of early infancy that the child will have needed not early exposure to reading, writing and mathematics, but quite different experiences.

Years 0-2 - emotional development

We define infancy as roughly between 0 and 2 - roughly because nothing in development happens on one's birthday, and the range of variability among children is very large. What should a child receive in these first two years of life so that at age six, his intellectual energy will not be bound up with unmet emotional needs?

In all the studies about infancy, the common factor cited is basic trust. Basic trust means that at the end of early infancy the child assumes that people are good and will continue to be good, life is fun to live, and he himself is okay. Somehow people make a connection between "life is good" and "I'm okay and deserve this good life".

From this basic assumption of trust, the child will be able to approach strangers because he will assume that they are as okay as his parents or immediate family. Furthermore, he will be able to support himself in instances where he gets no help from anybody else because he trusts himself.

Laboratory tests called *attachment experiments*, in which researchers watch what a child does when left alone or with a stranger for a few minutes, show that children with basic trust will trust a stranger after a few minutes of observation and will be able to sustain themselves alone.

We know from research that the way to teach a child basic trust is to have at least one adult - not necessarily the biological parent - with the time, willingness, and know-how to satisfy the young baby's needs. That is, not only keep him clean and give him food and toys, but also satisfy his emotional needs and love him.

Love used to be an unused concept in psychology, because nobody could define it. Now, again, people are talking about love and even trying to measure it empirically. The concept of love I wish to emphasize makes two assumptions. One is the child's uniqueness. I cannot compare this child with any other child, and if I cannot compare him, I cannot be disappointed.

Of course, people are "comparing animals". We compare all the time. To compare the child to himself, to say he has advanced or regressed, is legitimate. But to compare a child to somebody else, creates problems.

Amy Werner studied hundreds of children on one of the small islands of Hawaii. She followed them from the day they were born. Now they are thirty year olds. In this group were two sub-groups, normal babies and babies at high risk for developmental problems either because of difficulties attending their birth or because of families broken by divorce, crime, drug addiction, and so forth. Out of the high-risk group, those who became normal adults (stayed in school, supported themselves, married and had children of their own) each had at least one adult in the immediate family who gave them the feeling of being unique.

Logically, what is unique about a child who has his first tooth out, sits up for the first time, or starts to walk? Every normal baby does these things. Nevertheless, most babies have somebody who admires it, is excited by it, for whom it comes as a miracle.

The second basis of love is acceptance. One is satisfied with the child and does not compare him with an ideal child one would have liked to have had. If I compare my baby with an ideal baby, by definition I'll be disappointed. Nobody has ideal children. If Vivicott talked about the good-enough mother, this is the good-enough child.

Most human groups recognize the importance of basic trust. Many cultures need the solidarity of the family group and even a larger group (a village or a few families that live together). In such cultures, children have to be trustful towards their parents and other people because they

are going to stay in a family unit all their lives. In all cultures in which basic trust is important, the infant is kept very near to a parent, and children are not left alone to cry.

There are a few exceptions. There are cultures that believe not in basic trust but in competition, aggression, being hateful or at least suspicious of others. Such cultures provide less love toward young babies and less need for satisfaction. If it contributes to survival to be suspicious, not to approach strangers, to make a very strong division between who is for me and who is against me, then children will be exposed to some type of abuse.

Studies identify the two possible negative outcomes of neglect or abuse in infancy as basic suspicion or basic doubt. In suspicion, people are perceived as bad and one must be scared of them. When children who are regularly abused come into contact with a stranger who approaches them even one step, they make a warding-off gesture or behave aggressively.

Basic doubt means "I don't know". Is this person good or bad? Should I approach or avoid him? Usually, this question mark is built when the young child experiences an equal amount of satisfaction and rejection and never knows which to expect. When the child comes to the mother, sometimes she hugs him and sometimes pushes him away. Faced with such inconsistency, the child sticks to the grown-up. He won't leave his mother until he finds out of he's loved or not, if he's good enough or not, or until the good things that sometimes happen reach him. We find this combination of sometimes giving in to children and sometimes pushing them away in a culture that wants children and adults to be very strongly attached.

To sum up briefly, then, emotionally in the first two years of life children need satisfaction and love from at least one adult whom they know personally and to whom they are attached; that is, they miss him when he's not around. Attachment means personal contact over time.

This issue of attachment arises from our many childcare arrangements today. Even in daycare centers, the child cannot develop properly if there is not a constant person who is his personal nurse, teacher, or caregiver and to whom he feels attached. It must be somebody the child will miss, not just somebody who comes around to cook or play or sing.

Without attachment, there is no real education because a child will not identify with someone he is not attached to personally. A child will not accept discipline and punishment from a person he does not like and love.

Years 0-2 - physical development

In the first two years of life, physical and intellectual activities cannot be separated. I cite Piaget's sensomotor stage of intelligence. *Sensomotor intelligence* means problem solving through physical activity and sensory perceptions. Later, language and concepts and abstract thinking develop, but in these first two years almost everything a child knows about the world is gained through his senses and movement and the combination of senses and movement.

Thus, any physical development in the first two years of life means not only that the infant is healthy bodily, but also that he will be wiser. When he sits up, his intelligence grows. His ability to think grows. When he crawls on the floor, his world of exploration expands. When he walks upright with two free hands, he really becomes a genius because he can move from one place to another, touching and manipulating objects and learning much more about the world than a child who is not yet walking or is confined to the playpen or crib.

Every culture makes choices about the limits of physical development. In those cultures that are threatened by exploration and suspicious of curiosity, adults confine babies in some way. They put the baby in a certain place, or wrap him in swaddling. Some cultures allow movement but not touching. Sensation is limited. A child can move around freely but can't touch, and later can't look, and even later, can't ask questions because it is impolite.

If the whole house is made safe for the child and he is allowed to move around freely, perhaps discipline problems will arise - he will have to be taught what is dangerous, what not to touch, where not to go - but his need for exploration will be unlimited and he will enjoy himself fully.

When young children's physical activity and development are limited, cognitive problems follow because the basis of learning is a question, not only in the classroom but in everyday life; even with adults. In order to develop modern science, for instance, one must ask clever questions and look for answers in a systematic way.

And it starts from the day a baby is born. Babies ask questions behaviorally. Exploration of the environment is always trying to answer a question. What is inside this cupboard? Where did the ball disappear? What makes this noise, or what noise would this toy make?

To sum up, every physical development is cognitive development. Of course, it is important for emotional development too because a child needs the movement and is happier when he is active.

Years 0-2 - play

In addition to love and physical movement, in order for an infant to develop properly, he needs to play. Babies play from the day they are born. Even if the baby merely looks at his hands or moves them, it is play. He plays because it is a pleasure to do so and because it prepares him for the next stages of cognitive development.

The specific kind of play considered to be the basis for the development of language and abstract thinking is "as if" play. When a child of approximately one year feeds his mother with an empty spoon, drives a small car and makes noises *as if* it is a real car, or smells a picture of a flower *as if* it is a real flower, for the first time he is doing some kind of abstract thinking.

Language development and abstract thinking , which are the basis of reading and learning, are the ability to do things "as if," not the concrete action but a representation of it. This is why, if we want to raise wiser children, we must encourage them to play as richly as possible. I emphasize this because many cultures consider playing a waste of time. Teach the children a story, they believe, make them learn it by heart, teach them reading as early as possible, but don't waste time on play.

From the developmental point of view, however, playing itself is learning. Take, for instance, a one-and-a-half year old walking with a doll carriage. While doing it, he's absorbed in moving the carriage, but he learns a lot about how to move in space, how to avoid things that are in his way, what to do if a wheel is stuck or if there are too many dolls in the carriage and it toppies over. He learns to solve so many problems in this joyful activity of walking with the carriage.

This is why we call the processes of learning in infancy and very early childhood *occasional learning*. The grown-up can use the occasion to give the child some new words and ideas and thus enrich his play. If he feeds the doll, the grown-up suggests: Let's put it to sleep, let's give it a bath, let's take it to the doctor. It's a very opportunistic approach to learning.

In many cultures, of course, adults do not play, or if so, they play with other adults. Nobody laughs at a grown-up who makes funny faces at a baby, of course, but for an adult-child pair to sit on the floor feeding the dolls is not considered quite legitimate in any culture. I have had great difficulty convincing teachers to sit on the floor and play very simple games with the children. For example, we made a hairdresser's corner and market in the kindergarten. It took months before the teacher allowed

herself to be a client at the hairdresser or to shop symbolically at the market.

An adult who makes contact with his own childhood can be a source of rich ideas for the child, however. He also conveys the permission to indulge in this childish behavior. Furthermore, he contributes to another area of cognitive development basic to later learning, which is language development.

Years 0-2 - linguistic development

Although any child in any culture is born with the ability to learn a language, a rich vocabulary and the tendency to use words to solve problems are culturally and environmentally determined. Without well-developed language, a person's thinking process is impaired.

Some of the leading research in this area comes from Soviet Russia, which put a lot of emphasis on language development in day-care centers. The researchers concluded that the good language teacher always speaks one level above the child's understanding. At least 25% of the words a baby hears in his environment should be new to him. When a baby hears a new word, he tries to figure it out by a systematic, scientific process. He forms a hypothesis as to the word's meaning, tests it by inserting the word in a place he thinks it fits, then everybody laughs and he knows it doesn't. Or then every one says: Aha, what a clever child he is!

In addition, a good language teacher - not only a specialized or professional teacher, but also the parent - makes corrections. If a child mispronounces a word, for example, the adult repeats it correctly. If the baby says "bow wow", the adult says: "Uh huh, the dog is coming" so that he'll hear the right word. When the child speaks in single words, around the age of a year and a half, the adult makes enlargements. "Doggy" becomes "The dog is barking".

The adult not only contributes the whole sentence, but also adds ideas of his own. For example, if father comes home from work and the dog is barking, the child might say something like "Papa doggy". In order to enrich the child's thinking, the mother responds: "The dog is barking because he is glad father is home". The child comments on an event; the adult suggests the causes.

Many cultures believe one should not talk to a child until he starts walking. But if one wants a child's language to be rich and to be used in learning, one must talk to him from the moment he is born - in small sentences, not about abstract things, but about what happens to him. Video films capture three month old babies' response when a grown-up is speaking; when the grown-up stops, the babies make noises. They talk

back. It's real conversation. When the grown-up resumes speaking, the babies move their hands as if they are really conversing.

Studies have further shown that talking should be attached to meaningful and pleasant situations. One should talk with the child when he is full of food, after a bath, when he gets up from his sleep. One cannot teach him by shouting or by talking about things that he cannot experience right now. In twenty minutes of walking outside while a bulldozer excavates a vacant lot, for instance, one can teach the child twenty words because it is pleasant, exciting and meaningful. I remember a group of one and a half year old children who learned at least ten words - "cat", "cheese", "milk" and "eating" - from the situation of a cat's coming into the day-care center.

If this happens from the day of birth, the child will reach school with a rich vocabulary, an enjoyment of language, and the ability to use language to solve problems. I emphasize this point because one can solve problems without language, but one cannot learn to read and write without language. Children who come from disadvantaged families, for example, can solve problems beautifully by trial and error. If they work on a puzzle, they will fight with the pieces until they fall into place.

But with a child from a culturally advantaged family, one has only to say "turn it around", and in a minute the child has solved the puzzle because he can translate words into action. Linguistic development enables the child to ask questions and accept solutions from other people and learn from the older generation.

Individual differences: hyposensitive and hypersensitive children

In every culture there are two types of normal children that are a little bit problematic from the day they are born and will be problematic in school. They are not children with developmental pathologies. These two types of children can be classified *hypersensitive* and *hyposensitive*.

Hypersensitive means the child needs less stimuli to react. He hears a dog barking three blocks away. He sees three shades of red. Even the slightest wrinkle in his diaper will disturb him. Woollen clothes make him itchy. He must be touched very gently; otherwise, it hurts. The hypersensitive youngster needs a reality that is very mild; the normal world is too much for him. His exploration will be mostly visual. He won't touch sand or dirt. He keeps his hands in his pockets so that nothing touches them, and keeps a distance from people because people can hurt him. Such a child, even if well-loved, will be suspicious of others.

In contrast, the hyposensitive child needs extra stimuli from the same reality. He needs more than what normal reality offers. One of his solutions in order to have more is to be active, hyperactive, hyperkinetic. The more he moves, the more he feels himself alive and the abler he is to touch things. The hyposensitive is over-trusting. The world never hurts him. Nothing is painful. Nobody does him any damage. Sometimes I am able to diagnose such a child because the mother says, "She is heroic. She never cries when I comb her hair even if she has tangles. She never cries when she falls".

These are children who will walk with everybody, without discrimination. I suspect these are the children who are molested by strangers. They are able to hug strangers, to jump on their laps. They don't even look to see who's touching them because they crave touch and action.

Psychologists used to call these two types *extreme introverts* and *extreme extroverts*. Chess & Thomas speak of the *difficult* baby and the *very comfortable* baby. Concentrating on the senses, instead of labelling the child as having this or that *temperament*, provides a very empirical, practical way of dealing with the problem because it gives the clinician concrete ideas for helping the child.

In a normal population, there is a normal distribution of sensibility or sensitivity, i.e., 70% of the population will be in the middle range. The further one goes towards either extreme, the fewer people are found, so that in a hundred people there will be something like 5% hypersensitive and 5% hyposensitive.

It is an inborn variation the same as weight, height or intelligence. Most of us are in the middle of the curve. One must be a good clinician to know if the child has a disability (a pathology) or an inborn variation of the norm.

The first aspect of diagnosis involves observation. Some people even think these differences can be identified when we watch babies through ultrasound, *in uterus*. Some babies, for instance, will jump at any stimulus.

In Hebrew - probably in every language - we speak of *thick-skinned* and *thin-skinned* people. When one looks at a thin-skinned person, one can see the blood vessels under the skin; the skin is almost transparent. And one can see it from everyday behavior like eating. The inside of a hypersensitive person's mouth is so sensitive that he can't stand food touching it. He will bite with only the teeth in the front of the mouth so that the food will not touch the skin inside his cheeks. He will chew for a long time so that swallowing will be easy. He eats food that is soft and

sweet and not too hot. When a mother says, "My child eats only chocolate pudding and chocolate mousse," I know he is hypersensitive.

In contrast, a hyposensitive child likes food that is hot, dry, fried, crispy and salty. He must fill his mouth, feel he is eating something and eat very quickly. Some babies spontaneously add salt and sharp, hot spices to eat their food. They reach out for the olives and pickles the minute they appear on the table.

One can also identify these two extremes by looking at children's movements. The hypersensitive baby cries a lot, and the usual things adults do to make children stop crying, such as picking them up or rocking them, make him cry louder because it is even more bombardment of stimuli. A hypersensitive child or adult moves only from the hips and even lower, from the knees. The whole upper part of the body is fixed. The whole interest in life is to move as little as possible - except in water.

This is because water is a partial isolation. When the skin is wet, stimuli are felt less. And clothes isolate the wearer. Hypersensitive babies don't like their clothes being taken off, whereas the hyposensitive are "stripteasers". Nor can hyposensitive babies stand being wet. When they come out of the sea, they give themselves a good massage with dry sand. Then they are happy.

One has to adjust kindergarten and school proceedings to fit the needs of these normal but hypersensitive or hyposensitive children. One can't have the same activities for both. For instance, sometimes the two types are seated together at the same desk. The hypersensitive will make a line in the middle of the desk and won't even allow his neighbor's elbow to pass the line. I have had children referred to diagnosis because of this. "He's antisocial," the parents will say. In fact, nobody should sit near him because his neighbor's smell or the smell of his neighbor's sandwich makes him unable to concentrate.

Hypersensitives hate recess. Hundreds of children run out into the yard. For a hypersensitive child, it is like a herd of rhinoceros stampeding. The child stays in class in the corner and is thankful when the lessons resume and everybody is sitting quietly.

The hyposensitive, on the other hand, will touch and scratch and talk in the lesson. He has problems in school because he can't sit still. If the teacher says, "Sit in the corner until you are relaxed," the child builds up more need for action. One strategy is to send him out to run around the school twice. Then he can sit for a quarter of an hour. The teacher makes him sit near her and scratches his back, gives him tactile stimulation, while reading the class a story. Then he's okay. He can listen to a story if his back is scratched.

Reading and writing are not enough for a child who needs to move his whole body. Ask him instead to make a dramatic play from the reading material, perhaps. Allow him to write on the blackboard or on big sheets of paper. The minute he can make a whole-body movement, he can write. Small movements with the pencil drive him crazy. And if the letters are red and shiny instead of black, he can study. If the teacher gives him enough stimuli by combining different modalities of sensation - hearing, vision and kinesthetic sensation (movement and touch), suddenly it's interesting.

Therefore, teachers and parents must be alerted to these individual, inborn differences. When we talk about uniqueness and acceptance of the child, this is one way to practice it.

The older the child, the stronger the assumption that everybody is the same and must obey the rules. Some children cannot obey the rules, because the rules are at variance with their own physical needs. It's a physical need, not something learned, this need to have more or to avoid physical contact with objects and people.

Society makes a mistake by teaching a group of 35 children as if they are the same and treating any child who is different as a psychological case. He is referred to professionals, and if the family is lucky, they fall on the right professional who knows what he sees. Otherwise, the child goes into special education or becomes problematic, meaning he does not want to study. One of the most exciting aspects of my practice is when the child participates in the diagnostic process. These sensitive children also sense the disapproval of grown-ups. What relief the child feels when he meets somebody who does not think he's crazy or bad! He's just a little bit different, that is all.

A neighborhood day-care center once referred a child to us as retarded and antisocial. I said, "Let's try water." I took a big tub of lukewarm water and lots of small toys. When he saw me playing with the water, he approached because hypersensitives love water. During play, he suddenly started talking while everybody listened behind the door. They realized he could not be retarded because his vocabulary was adequate. When he came out of this secluded room and saw a group of children building with big blocks, he became jealous and angry and dared to fight with them. Then everybody knew he wasn't antisocial. Every morning when he came into the kindergarten from then on, an adult sat with him with a tub of water and toys and let him relax, after which he was able to enjoy what happens in kindergarten. This is the miracle of the water.

The other miracle is the miracle of the socks. Day-care nurses had diagnosed a one-year old girl as retarded. She sat apathetically, removed

from all the activities. I noticed her skin and assumed she was hypersensitive. It was winter, and she was wearing at least four shirts and five pairs of pants and two or three pairs of socks. If anybody had told me that a baby who looked retarded would start to say words like "father" and "mother" as I took off the last pair of socks, I wouldn't have believed him. Every shirt that came off made her wiser. The fewer clothes she had on, the more intelligent she became. She was a genius when she was naked.

This knowledge is very new. Only in the last five or six years have people become aware of it. Some clinicians have been using it for the last ten years. Whenever I teach it, people say it gives us keys to the children, the right keys, not like drugs or special education.

The family

What enables the family to give the infant the love and support he needs to become a well-adjusted person? There are two conditions.

First, the parent should have a subjective memory of his own childhood as having been okay. Studies show that the most predicting factor as to who will abuse his child, not sexually but aggressively, who will beat or neglect his child, was the parent's feeling that he had been abused or neglected. It is enough that the person *thinks* he had a lousy childhood. If the inner child in the parent feels neglected, abused, or unloved, the parent often feels envious and aggressive towards his own child and cannot love him.

In one sense, of course, this is a very pessimistic finding. The situation can be changed in therapy, however - not parent counselling, but therapy. Sometimes the two are confused. People think that if a mother is told how to take care of her baby, then she will be able to do so even if her own mother didn't provide the model. This is not true. Many people swear: I will love my child the way my parents could love me. It is not possible. Loving behavior can be learned only in an actual relationship.

Once I treated a mother who was very abusive. She was a prostitute and as part of her rehabilitation, the authorities brought her young son back from an institution to live with her. He used to come into the day-care center neglected and abused, and he expressed it. He would take a picture book, slap the picture of the child in the book and say, "Mommy, mommy slapping, go to sleep." He would tell the story.

We decided to take care of the mother as if she were a child in the day-care center. We talked with her and pampered her. We gave her coffee and were very tolerant of her - not a word of criticism because we noticed that if we even asked a question about the child, she would beat

him up at home. And then one day I said, "What do you think about a foster family?" I meant a foster family for the child. She said, "Wow, it's a wonderful idea!"

I felt very excited; at last we had achieved our hopes. And she said, "A foster family for me! Somebody to give me coffee, ask me how I feel, somebody to give me medicine if I am ill!"

In other words, one cannot teach alternative behavior to an abusive parent unless the parent receives some kind of loving care as well. A person gives love if he has received it. It's a process of emotional richness, not emotional poverty.

The second condition is that the couple's relationship should be stable. The couple is needed as a strong unit so that, if one of them is taking care of the baby, the other one takes care of the caretaker. It's a chain of support. It demands a lot to take care of a baby, and one has to refill the inner resources, which is done by another loving adult.

One of the difficulties of single-parent families is that the parent does not have anybody to give him food for his soul. The single parent living alone in a big city, cut off from a close-knit community or extended family with grandparents able to emotionally support the mother, finds it very difficult to care for the child emotionally, even if physically it is possible. If we think about a world in which half of the families in the year 2000 will be one-parent families, we see the problem.

The terrible twos

The intermediate phase between infancy and early childhood is sometimes called in literature "the terrible twos". It's a bridging phase. With some babies, it takes a few months; with others, almost a year. Although there are very big individual differences, the most striking characteristic of this phase is that children become negativistic, rebellious, impossible to manage. The compliant baby suddenly meets any suggestion with "No!" or "I want to do it myself!"

There are many variations in cultures as to how to deal with these terrible twos. If the culture is interested in free spirits, independent thinkers, non-conformists and innovators, in people who can think about and contribute to change, it will encourage the rebellion of these two year olds.

If, on the other hand, the culture is interested in "yes men" and conformists, it will make this rebellion as short as possible and cut it off as aggressively as possible. Many societies beat or otherwise punish children at this stage. The parents squash the rebellion, and the child becomes very obedient - but he has given up his independence. This is

one of the reasons for temper tantrums. If the child sees no chance to win, he throws himself on the floor and cries. It is an act of desperation.

At the opposite extreme are families - often pathological families, probably - who cannot fight with the child. They don't find the courage to be in conflict with the child. If you don't want to eat, don't eat, they say. You don't want to sleep, don't sleep - as long as the child is satisfied.

But developmental psychology understands that in order to become a separate personality, to know who I am, I need to know who I am not. Independence starts by mutiny. I know who I am positively by saying I am not you negatively. It is not by chance that the word "I" enters the child's vocabulary after this intermediate phase. Until he finishes his war of independence, he talks about himself in the third person.

This is one of the areas in which family therapy can intervene. One elegant strategy for attaining a normal life with the two-year old, so that he eats and sleeps and goes to kindergarten, is to suggest the contrary. If the mother wants him to eat, she teases, I'll never allow you to eat!" She threatens with mock anger, "If you go to sleep..." and then he does. Two-year olds have a sense of humor, so they run to bed. This contrary way gives the child an honorable exit from the fight.

Years 2-6 - emotional and social development

In order to enter school ready to learn at age 6, the young child must first find his place in relation to his siblings and peers and develop a well-grounded sense of identification with his parents.

For most children, a second brother or sister is born when he himself is two-and-a-half. Statistics all over the world show average intervals of two and a half years between babies. The child must cope with feelings of jealousy, envy and competition as a basis of his school performance. For this reason, the first time an only child must share a teacher with 35 other students is difficult. The beautiful world of being an only child is shattered.

From the age of two-and-a-half as well, groups of children form social structures. They learn how to enter them and how to behave in them. They learn how to define and change personal status within the group. Children must learn these social skills before they enter school.

Identification and internalization

School is based on the assumption that the child can command himself to come to school on time, speak only when permitted, eat only during the break, and do homework. That is, he can accept the rules and control himself, even if there is no teacher present. Developmentally, the first

year of school marks the turning point after which a child can control himself.

If something in the child's emotional growth and personality development has stalled, then the child won't possess sufficient self-control for school. This is why the process of *identification* and *internalization* - the wish to be like mommy or daddy and the ability to control himself as mommy and daddy controlled him when he was younger - is so crucial.

Negative identification

There are two types of parents with whom children find it difficult to identify - parents they think are too successful, because the child can't hope to be like them, and parents perceived by the child as not important or valued enough.

If the child perceives the parent as someone who is not honored or is despised, he doesn't want to be like him. This is called *negative identification*. Among Israel's new-immigrant population in the 1950's, for instance, were unemployed men who had been very important in their native lands but lacked modern skills. Many times the mothers went out to work instead.

The boys were in trouble because they couldn't identify with the non-valued father whereas the girls successfully identified with their independent and strong mothers. For years, the population of delinquent boys came from these families.

Valuation is not only societal but also in the family. I once witnessed a group of girls who were playing family. They chose one girl to be daddy. She came from a family in which the father was very childish. This daughter said, "I'm ready to be the dog, I'm ready to be the grown-up son. I'll never be the father in the game". This is another example of negative identification. The child knows whom he does not want to be like.

On the other hand, in many families the woman is de-valued. If a girl is brought up on stories of how hard it is to be pregnant, have babies, take care of the house and husband, she will find it very difficult to identify positively with being a woman.

Children also find it hard to identify with a too-successful parent. Such a parent may demand from his children equal or greater success. In one such family, the father was both very successful and very boastful about it. The son had trouble in school until the mother had to go abroad for three weeks. The father was forced to get off his pedestal and cook and be at home for the children. Father and son became much closer than

before, and the child's school problems disappeared. He was able to make himself study and do homework and identify with this successful *human* man, not *perfect* man.

The child's need for identification is one of the reasons a therapist can't achieve real change in a child without working with the family. In Israel, for instance, we created a program for adult literacy, especially with mothers who hadn't learned these skills in childhood. The minute the mother started reading and writing, and her children saw her sitting with her books, there was a great push to the children's school achievement.

The Oedipal Process

This process of identifying with parents, which is so essential to learning, is very exciting. It begins as a love story and ends with a moralistic injunction to self-control. I refer to Freud's discovery of the Oedipus complex, in which a boy falls in love with his mother and wishes to get rid of the father in order to marry her, and of the corresponding *Electra* complex in girls.

In the first phase, the boy compliments the mother, brings her gifts and flowers, and wants to get into bed between the parents and sleep with them. He even proposes marriage. We see this in every culture. All adults tease three and four year olds, asking, "Who will you marry when you grow up?" And they say mother or father, according to their sex.

It's a very turbulent age, full of jealousies and fantasies regarding the rival parent. If daddy goes away, perhaps he won't come back. If he's ill, perhaps he'll disappear from our life. Girls are jealous of mommy's beauty or new clothes, boys of father's abilities, but on the other hand, they love this parent so they feel torn.

Such jealousies and fantasies create lots of fears, too. The four year old knows he cannot kill the rival parent, he knows it is not allowed, so he punishes himself with fantasies of fearful things. Children are afraid of wild animals at this age. Wolves and bears and lions are coming to eat them up. Magicians will put a spell on them. Boys are afraid that they will be castrated in punishment, and girls are sure they already are.

Usually, what happens to resolve this phase is that the child despairs of coming between his parents. The good couple relationship makes him give up hope. The child realizes the parents won't separate to take him in as a partner. The boy switches from wishing to marry his mother, i.e., wanting to be *in the place of* his father, to wanting to be *like* his father, and the girl wants to be like her mother. When they grow up, they will find partners as good as their parents.

The first problem with identification obviously arises if the couple's relationship is not steady. If there is room between the husband and wife for another partner, the child senses it and goes on dreaming oedipal dreams. In many families with a troubled marital relationship, the child gets stuck at this stage of falling in love. Divorce and one-parent families encourage these hopes. If the 21st century becomes the century of divorce, many children will be stuck at this developmental stage.

When children pass into the second phase of the Oedipal process of identification, suddenly their games become imitative of adult roles in the culture. If, in the first phase, play expresses very powerful emotions, in the second phase it is a way of practicing social skills.

So they are lovers - they stand at two corners of the room saying, "My love, my love," and run towards each other and hug. Then they are a bride and groom. There are weeks in the kindergarten when every day brings a wedding procession. I once went into a classroom where all the children were sitting silently.

"What are you doing?" I asked.
"It's a wedding!" they said.
"Why are you sitting like that?"
"Don't you see?" they replied. "The photographer is taking photographs."

Then they play mommy and daddy. Their role play also reflects the social structure. Poor daddies often don't know how to act because many children don't know what the father does at work. They usually go up on the tricycles and say, "Bye, I'm off to work." As one child said, "My father is a manager. He doesn't do anything all day long. He just sits in meetings."

The mommies have lots of work: they sweep, wash, shop, cook, take care of the babies. The secretary phones and types - that's a job! They act the jobs that are actable, not only their parents' jobs, which are sometimes very abstract. My son's occupational dream was to be either the driver of the street-sweeping truck or to sell falafel (Israeli fast food). People come, people go, money changes hands.

In the third phase, the child internalizes his parents' values, way of thinking, and moral behavior. The parent becomes part of him. When he wants to cheat or steal, for instance, the parental voice inside his head says no. Thus he is able to prevent himself from doing forbidden things and to push himself to be studious, considerate and generous in accordance with his parents' wishes.

Years 2-6 - cognitive development

There are also specific cognitive needs at this developmental stage, and satisfying them is a prerequisite for success in school.

To understand how young children think and solve problems, we must return to Piaget and the *pre-operational* or *non-operational mode of thinking*. This primary mode of thinking is not interested in scientific experiments and checking out hypotheses. "If I think something is true, it's true. If I decide something is bigger, it's bigger. If I see a witch in the room, there is a witch". The fact that a child sees her makes her real.

In other words, non-operational thinking is egocentric. Time and place, for instance, have no objective reality for a young child. He measures everything according to what happens to him. The sun rises so that he can get up and go to kindergarten and goes down because he is tired and needs to sleep. This is why children's first distinctions are between weekends and weekdays; on weekends they don't go to kindergarten. The whole world turns around me.

Being egocentric means the child can't put himself in another's shoes. For instance, if one explains something to a child and then asks him to explain it to his friend, he can't because the minute he understands it he cannot imagine how somebody else could not. Nor can one ask a child, "Why did you do it?" He did it because he wanted to. For this reason, too, children of this age cannot play competitive games. They cannot accept rules. The child cheats because he wants to, and thinks that if he wants to, that's enough.

In addition to being egocentric, non-operational thinking is magical. The child (and some adults, too) assumes that human wanting is a natural force. It influences what happens. If I want somebody to die, I'll curse him; if I want him to live, I'll pray and he'll live longer. All young children believe in magic even if no adult tells them stories about witches and magicians. They invent magic.

Furthermore, non-operational thinking is symbolic rather than conceptual. Symbolic thinking is always rich and exciting, but it's not exact. It offers lots of possibilities for interpretation. In order to scientifically measure how swiftly a car travels, for instance, one divides distance by time. In order to metaphorically express a person's swiftness, however, one says, "He is swift as a leopard, a cheetah, a deer." The metaphor does not establish the person's rate of speed, but it is full of meaning. Saying someone ran as swiftly as a rabbit also says something about the person's fear. Saying someone ran like a leopard implies aggression, power and cunning.

This is how a child's mind works until around the age of six. Which is better, to teach this child operational, scientific thinking and say, "You are talking nonsense, there are no witches," or to cultivate the specific modes of thinking that are typical for this developmental stage? A third option, of course, is to wait for it to pass like other childhood diseases. He will grow out of it.

The developmental model, of course, encourages the child to do what is typical and natural at each stage. If one lets 2 to 6 year olds do what they want to do, they will play dramas, tell stories, paint and sculpt, dance and make music. The great educator Janusz Korcak recognized that all children between the ages of two and six are artists, musicians, dancers, painters, playwrights, actors and philosophers. They should therefore be allowed to do these activities in the kindergarten. As with parent-child play or conversation, there are ways to enrich the children's natural activity.

I base my argument on the existence of very respectable cultural activities that use this mode of thought as a basic mode of operation. The images and symbols in literature and poetry, for example, are never logical. Drama is never obedient to the rules of time and place. Painting or sculpture are never copies of nature. In music, too, the notes are not a necessary combination or a copy of the way birds sing. Somebody has combined them creatively.

Scientific innovation always involves an intuitive leap that is neither logical nor necessary. Religion, too, is non-operational. Nobody can prove the existence of God. Freud noted the non-operational thinking basic to dreams and humor. This ability to laugh at the illogical, and the general ability to combine uncombinable elements, is apparent from a very early stage of development.

All these areas of human culture and human intellectual activity, then, require primary thinking. All these modes of human cognitive behavior are very legitimate and not less exciting than secondary modes of thinking, i.e., mathematics or natural sciences or learning to read and write.

If children are permitted to do what they naturally want to do at this stage, then, according to research and observation, the moment will come when the child's way of thinking changes. He will want more operations. He will be more interested in reality. Suddenly these children don't want fairy tales. They want facts about how America was discovered and how the North Pole was reached and how wild animals are hunted. They want an accepted concept of amounts and accepted symbols for reading and

writing that always mean the same thing. This is the moment to teach reading, writing and arithmetic.

In sum, the school model is simply not relevant to the 2 to 6 age group. Some people even advocate teaching 1 year olds to read. The children don't have enough power, but if they did, they would refuse. We should fear that refusal because if, in their memories, kindergarten or day-care center was boring, punishing, and restrictive of young bodies and imaginations, this will carry over to school.

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Language, Reading and Reading Programs

Miriam GILLIS-CARLEBACH

Introduction

This paper is based not only on internationally accepted theories about reading, but also to a large extent on conclusions reached from practical experience and through research at the Haddad Center. The center was established at Bar Ilan, a religious university in Israel, to conduct research in dyslexia and reading difficulties, in order to help those who have difficulties in acquiring reading.

Reading and language

Reading is one of the most fascinating and significant subjects we teach in school. People who read good books can grasp ideas and, consequently, contribute to communication, peace and understanding. One of our most important assumptions is that reading is not an isolated subject, but a part of language (Shiff a. o., 1993). The more we connect it to other language skills, mainly to speaking, the easier it will be to read.

In order to understand the importance of this issue we have to clarify another concept, which I like to call "language flexibility" (Gillis, 1987). If reading is part of the language, one just has to pass from one language part (or language skill) to the other. A good foundation in spoken language may not solve all reading problems, but wide and flexible language knowledge will help to make reading easier and maybe even better. Language is complex, with various layers and levels of written and oral speech. Sometimes we say about a person: he is talking like a book -- referring to his high, intellectual language level. On the other hand, we

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Miriam Gillis-Carlebach was born 1922 in Germany and immigrated to Israel in 1938. Formerly a reading teacher for culturally deprived children, she went on to a university career as head of Special Education and later Director of the Haddad Center for Research in Dyslexia and Reading Difficulties of Bar Ilan University. She is a member of the Reading Committee, Ministry of Education, Jerusalem, and has published numerous articles in the field of reading and reading instruction in Hebrew, German and English. She received her PhD in 1984.

know about people who speak very fluently and are capable of easy verbal communication, but don`t know how to write their beautiful thoughts, because they lack language flexibility. They don't know how to pass from reading to talking, from talking to writing, from writing back to reading, etc.

In several languages, this transition is especially difficult. In Arabic, for example, the written, classical language is a separate domain from the spoken one, and therefore it may be somewhat difficult to teach reading to Arab children. In the Swiss-German dialect, Switzerdeutsch, there are differences between the spoken word and its German spelling. And classical Biblical-Talmudic Hebrew is quite different from the modern, revived Hebrew which is spoken today in Israel. Many children who read good literature easily may have difficulties understanding the Biblical text. Nevertheless, all these languages, even if not spoken anymore, have their religious, social, historical or other value.

The "third" language

There is an additional language which I would label the "third language": the language of basal readers (printed reading programs), the books used for teaching to read. Very often, reading is taught through a language we don't use. "Dan Fan Nan" (Bloomfield, 1963) is an example in English, but we could find similar sentences in Hebrew, German and French as well. "Dan fan Nan" is a written sentence, but we never talk like that. Why do the basal readers use this unusual language that is so useless in our daily communicative talk? (This critical question should in no way be taken as a negative judgement about the authors of basal readers; most of them are very concerned about teaching reading, not only to selected groups, but to the whole population, including children from economically and culturally deprived groups. They want all children to be readers and be part of our book-oriented, literate society. For weak pupils, the process of learning to read should be made as easy as possible.)

The structured, artificial "third" language was invented based on the belief that decoding words, syllables and letters is the key to reading, and that regular words are easier to decode than complicated letter combinations. Analyzing the language of about thirty Hebrew, five English, and three German basal readers, we found similar characteristics of the "third language" in all of them:

1) There are carefully selected and gradually introduced consonants and vowels, often of high similarity.

2) Vocabulary lists are comprised of short words of regular patterns, and, in the beginning phase, an optimal code of consistency between sound and symbol.
3) The text is comprised mostly of nouns, contains fewer verbs and has a rather restricted number of adverbs and attributes. (He is small, she is tall, etc.).
4) Words, even those of rather low frequency, are repeated very often in various sentences. (How often do we use the verb "fan" ?)
5) The sentences are mostly very short.
6) Sometimes the grammar deviates from the normative, in order to avoid the use of those pronouns which are not written according to regular patterns.
7) The content is often neutral, "objective", not appealing to the child's feelings and lacking "psychological reality." (Stories and sentences do not always have to be true or realistic, but the child should be able to identify with the written text!)

In spite of the above, advocates of artificially structured language claim it is an easy approach, because the child knows from the first step how to read or how to attack the patterned words. In English, the interesting term for "to approach a word", or "how to come to reading", is "word attacking skills". It is really a fight between the child and the words in the book, if they are new to him.

The language experience approach

An entirely different approach to reading instruction is the language experience, or open, approach. It takes children's spoken language as its starting point. Children sit together, chat and make up a little story. The teacher then writes it on the blackboard the way they have told it, and this text serves as reading instructional material for a number of reading lessons. But this exciting idea has its shortcomings, too.

After analyzing about 300 stories that children dictated to the teacher according to the open approach, we found a number of similarities in language, even though the starting points were entirely different.
1) There are no selected vowels, nor selected consonants. All the vowels and all the consonants come into the beginning words. The child is not concerned about the didactic aspect of learning to read, about letter similarities or regular word patterns; he is interested in the subjective meaning of the word (its semantic aspect), whatever comes into his mind.
2) The words are often of low frequency and reflect the personal experience of a single child.

3) In contrast to the structured approach, the repetition of words is low, offering only few opportunities for practice.
4) Nouns and verbs are of average quantity, but the use of attributes and adverbs is rare.
5) The grammar is not always correct.
6) The sentences are very short, since many children dictating their story indentify the length of the row on the blackboard with the length of the sentence.
7) In contrast to the structured approach, the content is very personal. But considering the average number of first-graders in a class (about 30-40), the text can't be created by all the children. Therefore, the text is often appealing only to one small group; that is, the psychological reality is mainly effective for those children who told the story, and who identify with its content.

Speaking and reading

The language experience approach serves first of all pupils who know to speak up - and less those children who need to be encouraged to speak. Spoken language is not only a language which one hears and understands; it must be pronounced and expressed. A word spoken previously is very often easier to read. But for those children who usually do not talk and do not activate their language, it is more difficult to read certain words expressed by the teacher or other children.

Studying the number of words spoken during lessons, Tausch (1966) discovered that in one lesson, the teacher uses more words than the quiet pupil does during a whole year. The teacher talks the most, followed by those pupils who are used to talking, who have already gotten encouragement to speak at home. But those children who remain quiet, don't express themselves and do not pronounce words, may have more difficulties afterwards in reading.

"The great debate"

There has been a "great debate" (Chall, 1987) between the open and structured approach. The defenders of the structured language have a very strong point: they proved that after two or three months in their system, many children use the words of the first stage of reading (in Hebrew, words with an A-vowel; in English, words with regular patterns). Introducing the second stage of this system (new vowels or new word patterns), however, became extremely difficult. The reason lies, paradoxically, in the beginning stage, when the child was successfully reading and was praised by his teacher. The child may conclude that his strategy is the only right way to read, and cling to it as the single reading

strategy. The success with one strategy makes him inflexible in accepting other word patterns and additional reading strategies, and he gets stuck in the first successful reading stage (Goodarce, 1972). Therefore, in the second stage, and even more in the stage of comprehension, many children fail to achieve what is required at school. Most reading tests from the third grade on focus not on reading as decoding, but on reading comprehension.

Research indicates that a reader who does not achieve a minimum of fourth grade level in reading (decoding and comprehension) will become a functional illiterate: somebody who doesn't use the reading culture.

Language flexibility and awareness

The question arises, of course, whether anything can be done about it. And here we should refer again to language flexibility. We should make it possible for every child to get many different experiences in language: listening to stories told or read to him, naming pictures, discussing and arguing which doll to choose for playing, asking him and letting him ask back - active, flexible experience in talking. Talking with parents, shopping in the supermarket or in the little store around the corner, listening how we talk to the child`s doctor or to visitors coming to our house, talking to his baby sister or to the big brothers - talking to many different people in different situations, to experience how to communicate.

That is why it is so important to give the children an opportunity to engage in sociodramatic play in the kindergarten. In such play, they can practice their speech in various situations, provided that the environment of the kindergarten is a rich one with lots of stimulation. This is an informal, wonderful way to re-build and re-act situations, to practice speaking and to build language flexibility.

But just putting a child into a talk situation is not enough for most of them. To achieve language flexibility there is a need for language awareness (Warren 1981), which can be aroused by example and explanation. Let`s say we take the child to the doctor and we ask him to "behave nicely" -- that is, to answer the doctor's questions and to talk to him with respect, "like mummy". We make the child aware of the way we are talking: to the doctor, the teacher, in the grocery or the toy shop, with granny - with every person we have a different language, we talk in a different way.

Luria and Ludovich (in: Stones, 1972) conducted a research program in several kindergartens, in which they increased categorization ability by making the experimental group aware of different pictures on their milk cups. They did this by pointing out and explaining: here is a little

butterfly, there is a little bee. In the control kindergartens, the children got the same cups with the same shapes of bees and butterflies, but were not told anything. After a couple of months, the experimental group whose awareness was aroused by explanation succeeded in separating the cups according to the pictures after two trials only, while the control group needed about a dozen trials to achieve the same goal. Oakland (in: Gillis, 1987) succeeded in increasing the listening power of first graders, arousing their awareness by adding a verbal explanation to auditory exercises: "Now listen carefully...".

Most children are born curious. They want to know; they ask questions and nag for answers. But there are children who seem not to have this exploring curiosity. Or they become less curious, lacking opportunities for question-answer dialogues and, consequently, using their language less and less. These children need to be made aware again of the power of a language and have aroused in them the love of using language.

In books for little children, sometimes one comes across a number of rather "sophisticated" words that are not always understood by the children. But the children love them, urge us to repeat them again and again and try to pronounce them correctly. It is the sound, the "music of the language" which arouses this response. Coming across such a word later at school or in another context, the child remembers it as the word he loved so much.

When talking to a child, one shouldn't choose only the words in the child`s vocabulary, but use language as such. It is important to differentiate between the freedom of the young child to use his own language and the language we are presenting him. The child may speak in his childish language; he can make mistakes. But very often, we as parents enjoy it, tend to imitate the funny children`s language, use his mistakes and become his partner. On the other hand, there are children whose speech is constantly being corrected. The latter may become non-talkers, afraid to be laughed at; the former may become "non-learners" of language. Therefore, a child should be encouraged to talk in his language, but hear his parents and the surroundings speaking their language. The comparison between different language modes serves as a challenge, stimulating language awareness.

According to the linguist Noam Chomsky (1972), every normal, healthy child absorbs language not only by hearing and imitation; children also have a natural talent for understanding the main language structures. They invent words they never heard at home and that do not exist in their mother tongue, but follow the language's structure. In Hebrew, for instance, an A-vowel at the end of a word is usually a sign of the singular feminine, and the end syllable OT for its plural. For example:

HALA (Sabbath bread)	HALOT (Sabbath breads)
MAPA (tablecloth)	MAPOT (tablecloths)
KALA (bride)	KALOT (brides).

Following this rule, many children say the plural of BEZA (egg) is BEZOT (eggs). They draw this conclusion according to their logical understanding of the Hebrew language structure. This is no imitation -- child usually hears the correct plural, BEZIM. Gradually the child comes to understand that there are exeptional, irregularly structured words; but he can learn only if we use the correct language.

Little children babble. They enjoy using their tongue, mouth, and lips; little by little, they begin to find words in their babbling. But the mother, and whoever is around the child, shouldn't babble. They should talk in a normal language, but should have patience for the language of the child. A beautiful children's song tells about "my mother who understands all the languages: English, Hebrew, Chinese and Childish". I think it is very important that the mother listen to the child's language, but talk back to him in the right way, bringing the culture of talking, language and communication nearer to the child.

Between early language and early reading

Language is not taught, but caught. The average child in a language-oriented society absorbs spoken sounds from the day of his birth; and from earliest childhood, a baby tries to transform these sounds into articulated speech without special intervention. In contrast, reading must be taught to the average child; it is a learned behavior. In many reading-oriented societies, as in ancient religious Israel, for example, only the boys were taught to read. Girls, despite living in this reading atmosphere, did not know how to read because they were not taught to do so. Therefore, we seldom hear it asked when to start talking to a child, but the optimal age for beginning reading instruction remains a lasting topic of discussion.

Usually, reading is not taught in Israeli kindergartens, but postponed to the age of about six (first grade). Nevertheless, experiments in early reading are constantly being carried out, without arriving at clear-cut results (Gillis, 1987). Advocates of early reading try to connect it to early talk and speech ability, and are anxious to develop academic skills as soon as possible.

Indeed, an eager, reading-ready child aged four to five will acquire reading with minimal help. But the average child should get emotional, intellectual and linguistic preparation in kindergarten and start reading at

school in the first grade. According to the policy in Israel, as I said, this is about the age of six; it varies from four to seven in other countries.

Based on extensive experience, I favor giving reading instruction in school only. Nevertheless, the kindergarten teacher should create a book-oriented atmosphere, and she should show the children that useful information can be drawn from books. If she wants to prepare special cookies for a child`s birthday or any other occasion, for example, she should look up the recipe in a cookbook. And she could read from the book, saying: you bring sugar and you flour, because it is written here that you need these ingredients for making the cookies. In this way she shows that the book can help. Other books (like picture dictionaries) can help us to understand new words through pictures and explanations.

And, of course, the teacher can read a joke from a book and arouse happy feelings about books. There are many ways to make the child aware of the importance of books.

The kindergarten teacher should know about reading skills, the reading process, programs and basal readers, and, not least, about open and structured language. The child should be prepared for language flexibility at a time when he is not yet obliged to learn to read.

As explained above, the structured language in many basal readers is sometimes not correct, sometimes funny, sometimes makes no sense -- "non-sense", like (in a Hebrew primer): "The cow is chewing salad" or "The camels are taking bananas to town". Both sentences are nonsense-talk, written because they contain A-vowels only. The author chooses to write sentences with these letters and vowels because of the consistency between the letter and the sound. But we can tell the children that this is a very funny language, and teach them some of these sentences by heart. And in every kindergarten -- at least I hope so -- there is a puppet theatre, and the puppets are allowed to speak this language. Thus, the children can become acquainted with the structured language, pronounce it and deliver it as nonsense messages; and through play in the dollhouse or doll's corner, or in sociodramatic play, they can use all these artificial sentences. In this way the child gets to know them, and later at school this may help him in his first reading steps.

Analyzing reading programs

Before starting reading instruction, the teacher has to decide which reading approach to use and choose the basal reader or reading program. A number of studies dealing with the analysis of reading programs concentrate mainly on the distinction between the *analytical and synthetic approaches* -- that is, the question of whether to start with letters and syllables or with whole words, sentences and little stories.

As crucial as these aspects may be, a variety of additional categories should be considered if profound analysis and comparison of reading programs is undertaken. Furthermore, according to Radigk (1979), only the first pages of a primer use exclusively either an analytical or a synthetic approach. If you cut the first 10-20 pages out of any basal reader, it is hard to decide whether its beginning stage concentrated on letters or on words, because the changes are very quick. Earlier or later, there is a need for both, and then a transfer to a mixed approach is required.

In one of our primers, the Hebrew word SHALOM (peace; this is the word used when greeting another person) is the first one to be taught in the reading lesson, and the next day it is already analyzed into SHA, LO, and M. If anybody skips the first page, he can no longer identify the book's approach as analytical; it already seems to be synthetic, because the original approach appears on the first page only.

Chall (1987) presented a more complex analysis of reading programs, referring to a limited number of them. A further step in program analysis is based on the research "From `Heder` to computer" (a "Heder" is the traditional little room where teachers of past generations taught very young children to read Hebrew). In this research, 20 relevant categories characterizing reading programs were chosen, each one divided into four subranges (see figure 1). The categories were chosen according to findings reached by analyzing Hebrew reading programs and their manuals, and interviewing teachers.

The question is not whether a program is "good" or "bad", but whether it is the suitable instructional tool for teaching reading in a certain class under certain circumstances. The main purpose of the research project was to obtain a method which could be used to systematically analyze and objectively present any reading program. Theoretically, we could create an "ideal" program for a certain group or a certain child by choosing the suitable subrange of every category. Of course, only very seldom can we find an "instant, ready-made" ideal program, but we can pick out from among the existing ones the program almost *suitable* for our "case" - or the one which can be adapted to the child`s needs, such as: changing names, enlarging the letters, coloring the pictures and adding written language exercises, or simply enriching boring stories with good humor.

The categories and their subranges

The categories refer mainly to Hebrew reading programs; here all a-grades belong to Hebrew `Heder` instruction, which form a straight-lined method profile (see figure 1).

1) The starting point - (see discussion of open and structured approach, above)
   a) letters
   b) syllables
   c) words
   d) sentences\stories

2) Structure (see discussion of open and structured approach, above)
   a) vowel-graded
   b) mostly vowel-graded
   c) consonant-graded
   d) mixed vowels and consonants

3) Vocabulary (see discussion of open and structured approach, above)
   a) classical (Bible)
   b) according to structure
   c) according to subject matter
   d) unlimited

4) Sentence structure (see discussion of open and structured approach, above)
   a) classical (Bible)
   b) according to structure
   c) according to subject matter
   d) according to children`s language

5) Story content (see discussion of open and structured approach, above)
   a) classical (Bible)
   b) according to structure
   c) given subject
   d) children's freely told stories

6) Letter learning ("ce-a-te" doesn`t make the word "cat", but naming the letter helps to understand the "secret of the ABC" and to arouse awareness of the letter sequence of the word)
   a) by name
   b) by name emphasized and by sound
   c) by sound emphasized and by name
   d) by sound only

7) Associations used for letter shape and sound (making letter learning fun, but there is a "danger" of sticking to certain associations)
   a) only occasionally
   b) only in first stage
   c) in every stage
   d) no associations used

8) Perceptional process (reading as a visual process [of differentiating letter shapes], or a language-like hearing process)
   a) visual
   b) visual emphasized and auditorial
   c) auditorial emphasized and visual
   d) auditorial

9) Number of syllables before synthesizing; Number of words before analyzing (perception comes before cognition; but how much does a child have to practice perceptional processes before the cognitive ones?)
   a) 100 and more
   b) 95-45
   c) 40-10
   d) 5 and less

10) Cognitional process (see discussion of analytical and synthetic approaches, above)
   a) synthetic
   b) analytical emphasized and synthetic
   c) synthetic emphasized and analytical
   d) analytical

11) Teacher guidance (is reading, like speaking, caught, or must it be taught?)
   a) every step guided
   b) mostly guided
   c) occasional guidance
   d) no guidance

12) Practice (what is the optimal amount of practice?)
   a) very much
   b) average amount
   c) occasional practice
   d) no practice

13) Reading readiness (integrated in or separated from the actual reading program)
   a) none
   b) occasionally
   c) in the first stage
   d) before beginning reading (in the kindergarten)

14) Language learning (see above discussion of language and speaking, integrated or not in the reading program)
   a) none
   b) occasionally
   c) in every stage
   d) before beginning reading

15) Writing (as a means to strengthen visual-motor coordination; to get motoric imprint of the word and its letter sequence)
   a) none
   b) disconnected to reading
   c) in every stage
   d) before beginning reading (M. Montessori)

16) Cursive Writing (cursive letters may be easier for the child to perform,, but they are very different from the printed letters to read)
   a) none
   b) in printed letter writing
   c) together with printed letter writing
   d) before printed letter writing

17) Reading facilities (prepared or invented by the teacher or ready-made and according to instruction)
   a) none or very few
   b) structured
   c) creative material
   d) modern technology

18) Mode of instruction (is the often-proposed individualized instruction communicative, so important for reading?)
   a) individual
   b) in groups
   c) mixed modes
   d) class-oriented only

19) Measurement of progress in beginning stages (is exact decoding the utmost condition for understanding reading; does understanding lead to better decoding?)
   a) progress in decoding
   b) decoding emphasized and comprehension
   c) comprehension emphasized and decoding
   d) comprehension only

20) Other categories (according to special features in different languages)

	ATTRIBUT/GRADE	A	B	C	D	Bisher:
1	Beginning with	letters	syllables	words	sentences	
2	Structure	visual ground	mostly s[illegible]	vocal grd.	consonant grd.	no limits
3	Vocabulary	classic (Bible)	acc. to structure	acc. to subject	free floating	
4	Sentence Struct	classic (Bible)	acc. to structure	acc. to grammar	[illegible] ren a lang	
5	Subject	classic (Bible)	acc. to structure	given subject	children's life	
6	Letter naming	by name	[illegible]	sound + name	sound only	
7	Associations	occasionally	in first stage	at every stage	no	
8	Perception	visual	visual auditory	audit. - visual	auditory	
9	No. of Word/Syllable before	100	95-65	35-10	less than 5	
10	Cognition-process	synthetic	synth. - analytic	analyt-synth	analytic	global
11	Discovery	guided	mostly guided	encouragement	no guiding	
12	Practice	very much	normal	little	occasional	
13	Readiness	none	occasional	in first stage	before beginning	reading
14	Language-learning	none	occasional	at every stage	before beginning	reading
15	Writing	none	disconnected	at every stage	before beginning	reading
16	Cursive letters	none	second stage	at same time	before printing	
17	Facilities	none of few	structured	creative material	technology	
18	Mode of instruction	individually	in groups	mixed	class oriented	
19	Measurement	decoding	decod. + compr.	compr. + decod.	comprehension	
20	Other					

Figure 1

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CATEGORY/GRADE	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	NOTES
1 Beginning with																					
2 Structure																					
3 Vocabulary																					
4 Sentence-Structure																					
5 Subject																					
6 Letter-naming																					
7 Associations																					
8 Perception																					
9 No. of Word/Syllab. before																					
10 Cognition-process																					
11 Discovery																					
12 Practice																					
13 Readiness																					
14 Language-learning																					
15 Writing																					
16 Cursive letters																					
17 Facilities																					
18 Mode of Instruction																					
19 Measurement																					
20 Other																					

Figure 3

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The same categories can be presented without their respective sub-categories, leaving instead little empty squares (see figure 2). Marking the suitable sub-category in the empty square can reveal the structure of any program, and will form a "reading program profile" which provides quick and objective information about its principles and structure.

As mentioned before, these categories refer mainly to Hebrew written reading programs, but they may easily be altered to fit programs in other languages or other concepts of reading instruction. They may possibly help in considering the way to conduct an objective analysis of programs and their accommodation of special cases.

The main thing is that every category, even every sub-category, has its advantages and disadvantages. We have to ask about every one: In which way does it help to make reading successful? Does it help all the children in the same way? From this point of view, the categorization can make the teacher aware of what a reading program may contribute to learning reading. but it is important to add and to emphasize: The influence of the teacher is a most important factor in activating the program. Her or his experience and knowledge about the reading process enable the teacher to adjust the program to every child, according to the child's needs and learning potential.

Special reading programs for little children

In Hebrew there are no special reading programs for very young children. Whoever decides to teach a three, four or five year old, chooses one of the available programs as if it were written according to principles of child development. The one exception is the `Heder` reader SEFER HAMASORET (The Book of Tradition), which has big, clear printed letters and is carefully structured; it is based on a strict synthetic approach in accordance with religious tradition, without contradicting modern opinions about the cognitive development of the child.

An approach for very young English-speaking children, described in "New approaches to teaching three, four and five year olds" (Bereiter in: Hechinger, 1966), has no formal reading program, but is worth mentioning because of its originality. It deals with the problem of the "lack of logic" in the English language -- the discrepancy between English orthography and pronunciation. Bereiter`s approach is based on six logical reading rules, of which the first one is a real breakthrough because it is simple, unconventional and logical: "Every word has a beginning and an end". One can use even this single rule to teach a great deal about reading: about long and short words, the importance of the space between words, reading direction, etc. This rule leads to the second one, about

word beginnings; and these rules arouse awareness of letters, word shapes and so forth.

These are reading tasks which even a very young child can perform successfully. They can be used for remedial teaching as well, when an older child needs an entirely new approach to written language to overcome his despair about previous reading failures.

On individual differences

We are constantly arguing about what is the *one* best way to teach reading. I think we should leave this argument, and ask what are *good ways* to teach reading. Only in theory could there be one best approach that is helpful and easy for all beginners.

In field research, first graders who were asked to divide a list of words from their reading program into easy and difficult-to-read words showed significant differences in their answers. Short words were difficult for one child and easy for another; regularly-patterned words were irritating to one child and successfully read by another. The same words were defined as "sweet" or "angry-making", decoded by reading letter by letter or read fluently, understood correctly or wrongly interpreted, by children who came from equal backgrounds, were prepared by the same readiness program, and learned to read through the same program and with the same teacher. That is, their reading progress depended not only on a specific reading program, but to a large extent on the individual competence, personal experience and literate attitude of the child. (Gillis, 1991).

Teachers should be aware of the differences among the children; furthermore, they should tell their classes from the very beginning that there are differences among children. They should explain that in the first grade nearly all the pupils are approximately six years old, but one was born in January, and the other one in November. Children are not exactly the same. One has long eyelashes and the other one has lovely hair. We are not alike. And we should emphasize the beauty of not being alike. It would be ever so boring if all the children would grasp the same ideas and know the same words at the same minute! We have to accept difference as a value. This has a significance that goes beyond an approach to reading; this should be the educational approach with all children in every subject. We should be aware and proud of individual differences.

At home we were nine children, but my mother always said: "Every child is my only child" (Gillis, 1992). I want to dedicate this beautiful point to her memory -- she was killed in the Holocaust.

One concluding statement

The teacher should be aware of the importance of reading in our society and of the great pressure it places on the child. He or she can be a beautiful child, a good child, a well-behaved child, a singing child, know how to write numbers, be helpful and friendly; but if he/she doesn't succeed in reading the word, he/she is immediately marked as inferior. Reading failure -- even just a slower pace of reading acquisition -- overshadows all the child's other personal qualities and achievements in other school subjects. That is one of the most terrible things that happens in learning to read. Therefore, we have to learn a great deal about the subject, to prevent reading failure by all means and to make reading a culture and a pleasure for everyone.

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Emergent Literacy -- From Theory to Practice

Ilana ZEILER

Collecting evidence from the participants

Do you remember how you first started reading? Most likely, you experienced two kinds of reading. The first was informal. It happened at home, before you went to school. It involved other people and they way they showed you what reading is about. It involved communicating with others: an uncle who wrote letters from abroad, an older sibling who could read, a mother who could read to you or tell you a story. You participated in a literacy event. Most people have enjoyable memories of this kind of reading.

It was only when you came to school that you started looking at reading through the teacher's eyes. At school you learned by rote, memorizing syllables and letters that were *decontextualized* -- not within a meaningful context. Your memory of this experience is probably less pleasant.

Emergent literacy -- the first signs of children's literate behavior

According to Shirley Brice-Heath, a *literacy event* is any event where print is involved in a meaningful way. For young children, literacy events include print and other reading, but also include occasions when a child is behaving as a reader by holding or playing with a book, or telling himself a story; or when he goes shopping with his mother, looks at the print around him and sees what she does with it. Sitting with adults who talk about books can be a very powerful literacy event for a child. It is up to the child to start differentiating among these events. It is through literacy events that we become readers.

We as educators don't make children into readers; they make themselves into readers. Our job is to help them, to give support, to act as role models. When a child starts developing into a reader -- note, I am not talking about learning to read, but about *becoming a reader* -- he uses two very different strategies.

Director, Basic Skills Department, Department of Primary Education, Ministry of Education and Culture, Israel. Lecturer at the School of Education, Hebrew University.

In one, he begins with taking meaning from pictures and listening to other people reading texts. Children "read" before they can actually read by getting meaning from pictures. The pictures tell a story. At some point the children learn that there is a difference between the printed page and the picture, but the picture is what attracts them first, and gives them a clue to what the story is about.

The second strategy is the formal learning of what we call the linguistic components: letters, syllables, phonics, etc.

We all differ as readers, because reading has got to do with who we are, how we see ourselves, how we value ourselves. It has to do with power, and politics, and many other social structures. Reading is not a neutral process. Whenever we think about literacy, we have to remember that it is culturally and socially embedded, that there is an ideology behind it. We always bring our personal histories into our reading, even if we are not aware of it. And when we teach literacy, we do so according to our view of its purpose. Do we want the child only to perform, to pass a test; or do we want him to act as a reader by communicating through reading with others, travelling to other places or into imaginary worlds, to get information in order to grow from within?

So, we have to understand literacy as more than just a school subject. We have to ask ourselves what kind of literacy we want to provide our children, what kind of literate people we want them to develop into.

Learning to become literate is very individual. Every child brings to the literacy lesson a different background, different experiences, different expectations, different views of people as learners and readers. According to the Russian psychologist Lev Vygotsky, what we see in children's behavior is the developmental stage they have already reached. Our aim, he believed, should be to identify what he called the child's *zone of proximal development* -- the range the child can achieve, at first with the help of an adult and later by himself. The teacher tries to pull the child forward by suggesting that he do the task himself, in his own way. The teacher stands by to help, but does not correct the child, does not say, "No, that is wrong, do it this way!" He always asks the child: "How do you think it should be done?" He picks up information the child presents him with and tries to point out possibilities, to see how far he can take the child in that zone of proximal development.

There is no set age at which a child can begin to learn literacy. A younger child may be a better reader than an older child at a particular moment in time. Reading ability has nothing to do with age. It has to do

with the child's linguistic competencies, with his experiences, how much he was read to, how much he's been playing with words and books, how much he pretended to be a reader when he played with language. Children pick up literate behaviors at their own pace, in a very idiosyncratic way, between the ages of three and eight. That's quite a long time span!

It isn't true that if a child is four he shouldn't start reading, or that if he is six he must, or that if he is seven and cannot read there must be some pathological reason for it. What we consider pathology is directly related to how we define reading. How we define reading generates the pedagogics that we use, our way of assessment, of testing and evaluating the results. If reading is all about phonics, about matching the visual sight of the printed word to its sound, then we will find a pathology in the child who has trouble with that. But if reading means getting meaning out of the text, even if the child cannot completely match sight and sound, then we will test to see if he can retell the story. The child may do the retelling from some text in his head which is not exactly the same as the written text, but we will not consider this a pathology. Instead, we will just invest more time, provide the child with more language and stories and books.

Learning to become literate by reading real books -- the role of the child and the role of the teacher

Children learn book language before they can actually read. They learn it through songs and nursery rhymes, and from the way they see language used in their environment.

The book the parent or teacher reads with the young child should be a "real book" -- a story book, not something prepared for teaching children to read in school. It could be a book with rhymes. The school book, written with a particular vocabulary in mind, is to an extent decontextualized, and its vocabulary is different from that used in a real book.

A real book doesn't have to be long or use a lot of words, but it *needs to have a story line*. Something must happen so the child can follow the reasoning of the plot and its characters. Something has to develop, to lead from one point to another. If not, the book won't hold meaning for the child -- or for the adult who is reading it to him. The adult must enjoy the book just as the child does; otherwise, the adult will subconsciously convey the message that this literacy event is not about reading, but about performing and being tested.

One of my favorite books is Rosie's Walk by Pat Hutchins. Rosie's Walk has only 28 words in it. But it contains a universe of meaning,

because of the story that is told through the pictures. In this book, which teachers call "very easy to read," the plot is not easy at all. The relationship between the characters is very complex. And the reader is always a step ahead of Rosie, the hen, because he knows something she doesn't: that there's a fox following her.

As you read to the child, you teach him to act as a reader. You teach him many behaviors of literate persons, like turning the page. You teach him to find where meaning comes from. Is it from the picture, or the print, or the two combined?

Sometimes the teacher will do the reading; at other times, the child will try to have a go at the print. But always, both are negotiating for meaning. That is the beginning of literate behavior. It should start at home, but if it doesn't, it's got to be done in school right from the start. What's important is that it be done in a homelike, informal situation, where both child and teacher are not threatened by anything and are just enjoying the book together.

We need to talk to children about what they read. Talking is very, very important. The more we talk about it, the more the children learn, because they match the meaning of what we are saying to what they took out of the text.

Different children demand different strategies. With a child who already knows book language, the teacher can draw attention to the visual dimensions of the print: how the words look. The teacher can count on the child's already knowing some of the phrases of the story. With a less advanced child, the teacher may have to work on rhyming. He may ask: "How do the words match? Do they match when you look at them, or do they match when you hear them?" He wants to draw the child's attention to the fact that there is a connection between what you hear and what you see, and do so in a meaningful context.

The teacher must be patient. And he must be confident the child can succeed. The child may not be reading in the way we usually perceive reading, but he is reading nonetheless -- he is behaving as a reader.

There are always three involved when an adult reads to a child. The child listens and the adult reads, but the voice speaking belongs to the author of the text. It is the text that teaches us how to read.

Of course, before anyone could read, someone must have written the text for him to read. So writing always precedes reading, even though we come to think of it as a skill that has to be developed later. *We must expose children to books and to book language and turn them into writers even before they can be readers in the conventional sense.* In fact, by

being writers they act as readers, both of their own texts and as the implied readers who are going to read their texts.

I strongly recommend beginning by having the child write his own book. Of course he can't physically write, so you must act as his scribe. But he is the author. We want children to become composers of the text, because when they compose a text they must think like readers. Then they become better readers, because they can reflect back and think, "Aha, that's what the author had in mind. I would have done it differently." We can discuss with them how they would have done it.

If you think about your own reading, you work with the author -- or perhaps against him -- because you are active and critical. When you read you are actually negotiating with the author. I remember a particular scene from a book I read that made a tremendous impression on me. For years I could recall that scene to the last detail. Perhaps twelve years later I read that book again, and the scene wasn't there. All its elements were there, but the scene itself was different. It had been only in my head. When I had remembered the story, I had rewritten it.

One of the key strategies of every reader is prediction. Reading is not only a visual skill, but a cognitive one. The brain leads the eye, not the other way around. So reading, like any other linguistic process, begins in the brain, with the reader anticipating and predicting what will happen. He picks up clues from the print and the context. What sort of book is it? If it is a cookbook, it can't begin with "Once upon a time." If it is a telephone book, you have to expect something quite different. The reader has to know how to make distinctions among the different genres.

The child uses his predictive ability to anticipate the story. What is it going to be about? The answer tells him what kind of language to expect.

What I've said above differs from traditional notions of reading. Not long ago, reading and writing were looked upon as primarily visual perceptual processes. It was also assumed that children are not ready to learn reading or writing until they are five or six; hence, the conventional age for beginning school.

It was believed as well that children have to be taught to be literate, and that this teaching must be systematic and sequential, beginning with letter sounds and shapes, then going on to short words, then longer words, then sentences, then phrases, and so on.

These assumptions did not take into account a number of factors. They did not take into account that becoming a reader and becoming a writer are closely related processes -- that in fact, as I said above, it is writing that starts the process. These assumptions did not consider that becoming literate is a social process, or that it is a continuous

developmental process that begins very early in life. They did not consider that children's knowledge about literacy is a legitimate element of their literacy development.

They did not take into account that in order to become literate, the child needs to engage in literate activity. The opposite was believed to be true: that first the child had to be taught to be literate, and only then would be able to engage in literate activity.

Nor did they take into account that most preschool children already have some knowledge of reading -- even if their environment is not a fully literate one.

Particularly in modern societies, children are exposed to a great deal of *environmental print*. Print appears on T-shirts, signs, advertising. Print is on everything from your passport, to a bus ticket, to the shampoo you use. Everyone who wears a printed T-shirt is potentially a walking book, because the writing gets our imagination working; we can write or tell a story about it.

Children see a lot more than we think they do. And they understand a lot more -- they teach themselves. They become socialized into many things just by listening, looking, watching, imitating, etc. They see how adults act with and react to print. They know print can bring joy or sorrow. They come with their mother to the supermarket, and watch how she looks at prices, descriptions, instructions. They know what kind of print is read by their father and what kind is read by their older sister. It's our duty to show them, to take them around, to talk to them about environmental print. Children can play at reading and writing, just as they play doctor, or play with dolls. We can have them write their own advertisements or banners.

I'm not saying the old view is wrong and that what I have suggested is right. I do think we now know more, and that's why we look at the subject differently. We know that there are more elements involved in the reading process than we once thought. As a result, we change our models and definitions and, thus, our teaching methods.

Technology also has an impact. The introduction of word processors into schools, for example, will change the whole concept of writing readiness. For the past fifty years, primary school teachers, psychologists and others involved in preparing children to write have been concerned with children's fine motor skills -- their ability to hold a pencil, and so on. Using word processors will demand different skills. Instead of using the right or left hand, for example, children will use both hands to write.

We can't define reading and writing in terms of technology, because technology changes all the time. Technology is a means to the end, but reading and writing come from the brain.

The research that has been done in the last twenty years has extended our understanding of literacy. Today we know that *reading and writing are not merely visual perceptual processes, but are cognitive and social abilities involving a whole range of meaning-gaining strategies.* Meaning comes before the visual perception of form.

As I've said, most children begin to read and write long before they arrive at school. They teach themselves by looking at what others do. Children who teach themselves how to read at home are not less competent readers than people learning at school. It may be that the teacher does not value or judge the reading by the same criteria. The child may be able to read and write but cannot spell out all the phonics, because it didn't dawn on him that he has to separate every syllable to a corresponding sound.

Today we know that literacy emerges not in a sequential manner, but as a response to the previous exposure to language experienced by the child in his environment, social context, and linguistic context.

What we tell children about reading is very important. If we give them the message that reading is only an exercise you do at school, they ask themselves what the difference is between that and the kind of reading they see their parents and siblings doing. This creates a distinction in their minds between school literacy and home or environmental literacy. Many children I have met can easily tell you about a real book, then say, "but we don't do that in school" -- and point to an exercise book, saying, "correct reading is that." Many teachers reinforce this distinction. When a child has finished his reading exercise, the teacher will say: "All right, go and take a book." We confuse children by suggesting that there are two kinds of book, two kinds of reading.

The classroom has to become a literacy environment in which children engage in literate activities.

"I used to be scared that I had to learn all the words in the books," a child once told me. "But I'm not anymore." Why? "I found out there's a pattern to them." Children form their own hypotheses about how written and spoken language work. In the beginning, they don't go according to convention; they generate their own rules. But these rules have a logic; there is reason behind them.

If we listen to what children say about reading and watch how they act as readers, we see that they know a great deal about it. And they

manipulate literacy learning in the same way they manipulate everything else they learn about the world.

It's clear they know, because they keep asking questions. Only when they get to school do they have to sit quietly, and we start asking them the questions. But many of them can ask the questions at least as well as we can.

Again, *talk is an important part of learning literacy*. We no longer believe that up to a certain point in their development children only talk, and from then onward, start reading and writing. We think today that all go together all the time. Children, we now believe, understand what they read by negotiating its meaning; and this is done orally, by talking to an adult.

Books should be shared with children, read to them, discussed. The purpose of this activity is to develop an intuitive awareness of written language, to get to know what books are and what they are for, to experience the satisfaction and enjoyment that are found in books. Children have to be socialized gradually into talking about books and telling stories themselves.

That means we've got to have books in class, and at home. Now, books are expensive, so we can write our own books. We can engage parents who can't write but who can tell stories, and we can act as their scribes. Why not organize a workshop one evening where parents come and tell stories? The resulting books will be especially valuable because they will be part of the children's own culture and traditions. Parents can also be involved in making drawings for the books and binding them. This will give parents a feeling of collaboration, of being part of the development of literacy.

Grandparents, aunts, uncles, siblings and other members of the community are great reservoirs of stories. You can hold workshops on a regular basis, even set up a kind of club. Bring in a few refreshments -- it doesn't require a large budget.

We can also have children join libraries, while we choose the books to read. The classroom library does not have to be very big; it can start with ten or twenty books.

A good book feeds a child's sense of story, builds up a repertoire of stories and rhymes, and develops an intuitive awareness of written language structures.

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Emergent Literacy: Children's Ways of Writing in Preschool Years (*)

Ana SANDBANK

This presentation focuses on emergent literacy. It explores the development of children's knowledge about written language before they read and write conventionally, as well as the pedagogical implications that emerge from this theoretical framework.

First, some of the basic assumptions that underlie research on emergent literacy will be presented. Second, the conceptualization of written language among preschoolers will be discussed. Finally, some questions concerning bridging psychological research and pedagogical issues will be addressed.

Over the past decade and a half much research has been carried out on a new approach to conceptualizing the early phases of literacy (Sulzby & Teale, 1991). In spite of differences between empirical questions, there are some basic and common assumptions that characterize this approach, four of which will be spelled out.

Children born in a literate society are very early on immersed in written language. Environmental print - advertising, books, journals, periodicals - is a part of their world. Reading, writing and talking about texts occur in everyday life and serve different purposes, i.e., to leave a message, share a story, conserve information from the past, label objects, communicate, or sign. Since interaction with written language is almost unavoidable, it can be assumed that children start thinking about written language from a very early age.

Children are active in building knowledge, and have a tendency to constant cognitive growth. They try to understand their environment; they select and attend to its relevant features, one of which is written language (Ferreiro, 1985; Tolchinsky-Landsmann, 1990, 1992).

Ana SANDBANK, M.A. in Educational Counselling, is a teacher trainer at Beit Berl College - Melel, Center for Applied Research in Children's Language. Ms. Sandbank is involved in research on emergent writing among preschoolers and first graders.

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While constructing their knowledge, children come up with their own ideas about written language. From this theoretical point of view, children's ideas that do not correspond to the conventions are interpreted as "wonderful ideas" and not wrong ones (Ferreiro, in press).

The conceptualization of written language involves two different aspects, among others: the written system - conventions such as letter-sound correspondence, spelling, spaces between words - and knowledge about the language to be written - the basic cultural distinctions between different genres and functions of writing (Blanche-Benveniste, 1982; Tolchinsky-Landsmann, 1990; Teberosky, 1990).

Written language is a cultural object that has been created by the human mind and is socially transmitted. Knowledge and functions of written language, as well as expectations of society regarding literacy and illiteracy, have changed throughout history and vary among cultures (Brice Heath, 1991). Writing has to do with cultural and social meanings, ideas and thoughts; therefore, it cannot and should not be reduced to a matter of school instruction.

The conceptualization of written language among preschoolers

The analysis of children's spontaneous or elicited written products reveals additional aspects of children's knowledge of written language. It is important to mention that looking into written products should include not only what the children put on paper but also their own interpretation of these written products, as well as their intentions in writing them.

The written products presented here follow a developmental path which has been divided into three main periods. This developmental path was found for Hebrew as well as other languages (Ferreiro & Teberosky, 1982; Tolchinsky-Landsmann & Levin, 1987; Sandbank, 1992).

The first period is marked by the differentiation between iconic and non-iconic modes of graphic representation. In producing writing, children are sensitive to the general features of the written system: they use signs, pseudo-letters; they arrange them in a line, sometimes with a fixed directionality, sometimes writing a single sign for a word (Ferreiro & Teberosky, 1982; Tolchinsky-Landmann & Levin, 1985, 1987).

Figure 1

Nili

elephant (pil) פיל

Eynat

Eynat (her name) עינת

Dor

tangerine (klementina) קלמנטינה

elephant (pil) פיל

In this example we observe that Nili (3:10), who has been asked to write the word "elephant," uses pseudo-letters, which are arranged in a line, with some internal variation between signs. We can see that she knows that writing has to do with letters and not with shapes of objects.

Eynat (2:7) has *signed* her work. In this case, we can distinguish between the drawn part and the written part. From her experience at nursery school, Eynat knows the function of the written name - the signature - although she did not write her name in a conventional way. It is important to add that many early experiences in writing are related to children's names.

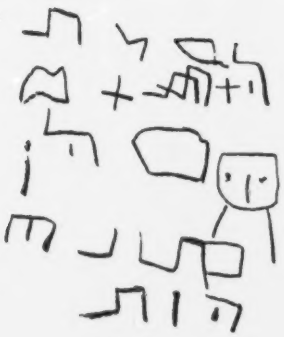
In the third example, we see a reduction in the number of letters used to write words. Dor (5:0) wrote "tangerine" (klementina) and "elephant" (pil) with four letters each. He himself decides how many signs are needed for a written word. In Hebrew as well as other languages, children assume that three or four signs are necessary for a written word.

The main characteristic of the second period is the production of different writings for different utterances. Children start to differentiate one string from another by varying the letters, their order and/or their number; that is, children start to produce inter-writing variations.

figure 2

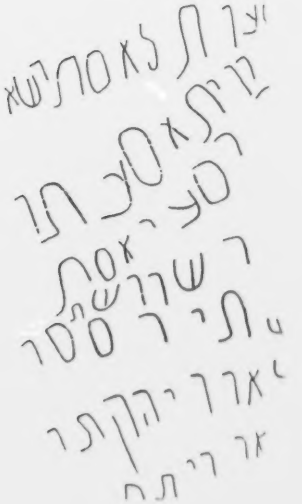
Li'at

The letter:



Rotem

The fairy tale



Li'at (4:0) wrote a letter to her father using mainly the letters of her name. Although she used a limited number of letters, she can "write" almost everything, because she produced differences in the arrangement and in the quantity of letters. Li'at also knows that letters carry messages to be read by people, and are sent to people who are not present. Although she wrote the letter herself, she refused to read it. She said: "I don't know how to read, daddy does."

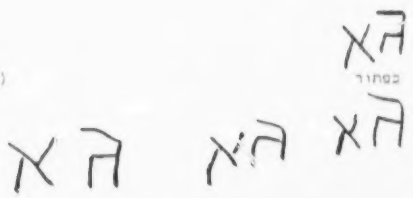
Rotem (5:7) wrote a fairy tale: Hansel and Gretel (in Hebrew, Ami ve Tami). She also used mainly letters of her own written name, in different arrangements. In contrast to Li'at, she also reconstructed the story orally in the following way:

Ami and Tami and a stepmother.
Their mother died.
Ami heard the conversation.
The mother said: We have to get rid of our children.
And there was a witch's house,
And one day she put Ami and Tami in the cage,
And Tami pushed the witch into the oven,
And Tami went to release her brother,
And they lived in richness and happiness
For ever and ever.

Rotem did not read her text from the written marks left on the paper, but rather from the text she remembered; or, she told the text she expected to be written. Such a behavior is explained by the fact that a text is not only a written product but an in-head phenomenon (Harste, 1984). As children start to produce variations among written strings, they become concerned about the criteria they use to differentiate one utterance from the other. In this period, children treat a word as a unit without differentiating between phonetic and semantic levels.

figure 3

Ezra



button (kaftor)

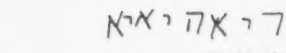
כפתור

buttons (kaftorim)

כפתורים

stop (atzor)

עצור



move forward (sa kadima)

סע קדימה

move backward (sa axora)

סע אחורה

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Ezra (5:9) was asked to write two words: "Button" (kaftor) and "buttons" (kaftorim). Ezra produced more letters in writing "buttons" because "there are a lot of them".

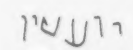
In another situation, Ezra was playing a game with Odelia, and they asked to write different orders: "stop" (atzor), "move forward" (sa kadima) and "move backward" (sa ahora).

They decided together to write only a few letters for "stop" because one doesn't move at all, use the most letters for "move forward" because one advances, and to use an intermediate number for "moving backward" because one moves, but less than in moving forward.

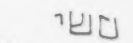
In Hebrew, the last two expressions have the same number of syllables and the same number of letters in writing.

figure 4

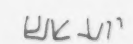
Dor



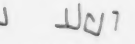
white bread (lexem lavan) לחם לבן



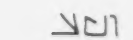
black bread (lexem shaxor) - the first trial: --- לחם



black bread (lexem shaxor) - the second trial: לחם שחור



white cheese (gvina 'evana) גבינה לבנה



yellow cheese (gvina tsheuva) גבינה צהובה

In these cases, differences in the quantity of letters are related to differences in meaning.

Dor (5:0) was asked to write "white bread" (lehem lavan), and "black bread" (lehem shahor). After starting to write, he stopped and told the adult that his writing was not good. The teacher asked him if he would try again. He then wrote the same letters at the beginning of the word and changed the last letters. While writing "white cheese" (gvina levana) and "yellow cheese" (gvina tsehuba), he didn't hesitate and wrote the same beginnings, but different endings. Dor repeated the arrangement when there was a congruence between the phonetic level of the word and its meaning. In this case, differences in the arrangement of letters are related to differences in meaning.

The third period is characterized by phonetization in writing. At first, children start to look for correspondence between the number of characters and the number of syllables. Sometimes they even make use of conventional letters. As they extend this way of writing, their products become closer to conventional ones. By the end of this period they grasp the alphabetic principle of their own written system.

figure 5

Tal

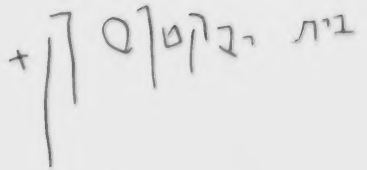
button (kaftor)

buttons (kaftorim)

Nataly

(A) house with cookies and candies

Bayit im bisKvitim ve-sukariyot



בית עם ביסקויטים וסוכריות

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Tal (5:10) was asked to write "button" (kaftor) and "buttons" (kaftorim). She repeated the first letters. She explained: "KAFTOR and KAFTORIM start the same and you add something else".

Nataly (5:0) wrote a description of the witch's house in the story of Hansel and Gretel. "(A) house with cookies and candies". (Bayit im biskvitim ve-sukariyot). Nataly wrote "bayit" (house) conventionally and after that the first opening consonant of each of the syllables.

The above examples all demonstrate that from early on, children know that writing has to do with language. Yet it takes some time for children to discover the particular relationship between language and writing (Tolchinsky-Landsmann, 1990).

Children are also aware of the different functions of written language and hence are able to produce written texts and to differentiate between genres even before they master the conventions of the written system (Tolchinsky-Landsmann & Ginsburg, unpublished; Tolchinsky-Landsmann & Sandbank, in press). Research on emergent literacy has provided new foundations not only for psychological theory, but also for pedagogical ideas about literacy development in children before systematic school teaching (Pontecorvo & Zuccermaglio, 1990). But it is not possible to do in classes what was done in research, since educational settings have different objectives and contexts (Coll, 1978). Therefore, it is important to build a bridge between psychological research and pedagogical concerns.

Building a bridge between psychological research on emergent literacy and pedagogical ideas about written language in preschools

We believe that in order to construct a bridge between psychological findings and educational issues, it is important to redefine the place of written language in preschools, the place of teachers in literacy development, and the context of learning. In this way a bridge will be created between preschool and social experiences in language and literacy.

The place of written language in preschool

For many years it was assumed that written language has no place in preschool. Many people claim that children need time to be children, to grow through natural childhood activities. It is not children, but schools, however, who have separated writing from art, song and play; it is teaching methods that have turned writing into a perceptive-motor skill - an exercise with hands and pencils - instead of allowing children to construct ideas about written language (McCormick-Calkins, 1986).

The place of the teacher in the process of becoming literate

Teachers can join children in their process of becoming literate if they take into account that there is a lot of expertise in children - that the teacher is not the only depository of written language knowledge (Teberosky, 1992). To discover what children know means to become learners of the children's way of thinking about written language. Teachers will then be able to provide children with support adjusted to their needs, gradually removing it as the children become more independent in their learning. This kind of support has been compared to scaffolding (Palincsar & Klenk, 1992).

The context of learning

Children learn written language in learning environments that expose them to the written manifestations of culture (books, printed materials and even products of oral tradition like stories, proverbs, recipes, etc.) They learn to read by reading books that "teach them" (Meek, 1988) and to write by writing.

While writing, children are allowed to think about writing, to experience risk-taking in learning, to hypothesize and to verify their hypotheses. That is, they are allowed to write and to read in their own way and to share their way of thinking with other children and adults in functional activities (Teberosky 1990).

Bridging the child's home and preschool language environment

There are different language and literacy practices of child's culture that can be incorporated in preschools and schools. It is important for teachers to learn about the different kinds of interactions with written language that take place at home in order to build a two-way channel between communities and classrooms (Brice Heath, 1984; 1991).

In conclusion, teachers should be active in acquiring knowledge about literacy, exploring children's ways of learning, and thinking about the meaning of literacy, in order to be able to redefine the theoretical bases of their practices.

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Literacy Acquisition in a Diglossic Situation

Jihad IRAKI

The educational community is aware that children frequently have difficulties in reading and particularly in reading comprehension. Written texts are the main tool of learning in the Israeli schools. And rightly so, since researchers found a connection between reading comprehension and learning achievements. The higher the level of reading comprehension, the higher the achievement level in learning. Comprehension is dependent on general world knowledge and the knowledge of language that the reader possesses. When the language of written texts given to the pupil at school differs somehow from the language he/she speaks, difficulties in reading, reading comprehension and in learning in general can develop.

Differences between the language of daily communication and the cultural and written language exist in every language where there is a tradition of writing and of written literature. However, diglossia in the Arab world is particularly acute.

Diglossia, a term coined by Ferguson (1959), is "the presence of a high and low style or standard in a language, one for formal use in writing and some speech situations and one for colloquial use" (Harris and Hodges, 1981, p. 88). Arabic is often cited as a prime example of diglossia since the difference between literary Arabic (Foos'ha) and colloquial dialects (Amiyah), as spoken in many lands, is particularly pronounced.

Except on specific formal occasions, Amiyah is the natural medium of communication among speakers of Arabic and is accepted by linguists as a fully fledged language system, although one must note that the Amiyah spoken in one location, Haifa for instance, is quite different from the Amiyah spoken in Casablanca and not mutually understandable. In the Arab world Amiyah is frequently regarded as an inferior medium, a perversion of Foos'ha. Foos'ha, on the other hand, is highly revered

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Jihad IRAKI, National Supervisor for Kindergartens in the Arab Sector, Ministry of Education and Culture; Lecturer, Oranim Teacher Training College and Gordon Teacher Training College.

because it is the sacred language of the Koran, the Book of Islam, and of Arab culture in its classical period, as well as serving as a unifying bond among people using many different vernaculars. Consequently, Arab school beginners are taught to read Foos'ha in spite of the fact that the children's mother tongue is invariably Amiyah and all speech directed to them prior to school entry is in Amiyah. Since Foos'ha differs from Amiyah in vocabulary, phonology, syntax and grammar, this means that children are expected to read a language they do not know. Parents, teachers and linguists tend to attribute the high rate of reading difficulties in Arab schools to this situation.

The Lebanese linguist Frayha (1955) illustrated the difficulty facing learners by an example of his own ten year old son, who easily supplied correct answers to his homework questions in Amiyah. However, when in preparation for school he tried to repeat in Foos'ha what he had just said in Amiyah, his thinking stopped short and all his attention was directed at the form in which he needed to express his thoughts rather than at the facts of knowledge he wanted to express. He started thinking in words and morphological and syntactical forms far from his life's experience. And he became annoyed with himself.

Young children's lack of familiarity with Foos'ha has a side effect on parents' behavior. A study investigating book-buying habits and the way books were used among the families of 290 Arab kindergarteners in Israel, drawn from 35 towns and villages, found that only five of the families (1.8%) read to their children from books. In 58.2 % of the families parents orally related stories that they remembered from their own childhood. In the remaining families (40.0%) parents said that they used books in story telling sessions, but did not read from them. Rather they related orally in Amiyah while showing the children the illustrations.

Two main reasons given by parents for not reading from the books were that the children do not understand the language and that the children do not enjoy being read to from books. An expected finding was that visiting kin and friends do not bring books as gifts for kindergarteners because they indicated that the children are not yet able to read, they do not understand the language, children tend to destroy books because they do not know what to do with them, and no suitable books are available.

Story-telling was not a frequent activity in any case. Stories were told daily in only 25.7% of the families interviewed, and one to three times a week in 19.5%. The rest told stories sometimes, but mothers maintained that they were too busy to tell stories and that the children

watch television anyway, and the people on TV were better qualified, they contended, to do it.

Contrary to results of home story-reading studies in other countries, Iraqi's (1990) findings apply to a population representing a variety of social levels. Thus, in this case, the specific language situation rather than social background seems to be the decisive factor in parents' not reading to their children.

Research has amply documented the many ways in which story reading to young children furnishes them with knowledge and skills that are believed to aid their transition to literacy. Areas that have so far received most attention are the nature of adult-child interactions in storybook situations, children's emerging phonemic and metalinguistic awareness, links between children's emergent reading and writing behaviors and vocabulary growth. Children growing up in a diglossic situation are exposed in a more extreme form to a common experience of childhood, namely that language addressed to young children in face to face situations lacks many of the attributes of storybook language.

A series of quasi-experimental studies at the University of Haifa found that Hebrew speaking kindergarteners and first-graders who had listened regularly to story readings outperformed control groups on measures of comprehension and used a richer vocabulary and more complex sentences in telling a picture story.

Teachers further reported that during dramatic play children jokingly conversed in stilted book language. These findings suggested that for young children, listening to story readings may be a language learning situation. Not only had children become acquainted with book language, but the impact of hearing literary language within a story context was so pervasive that it extended beyond children's passive language skills and affected also their active use of language. These results made it seem worthwhile to explore the feasibility of using a similar approach in Arabic-medium schools, where the mismatch between children's home language and the language of texts used in initial reading instruction is infinitely greater than in Hebrew. (Israel has two official languages, Hebrew and Arabic, with the Ministry of Education maintaining kindergartens and schools in both languages).

The purpose of the present study was to examine whether regular reading of stories in literary Arabic to Arab kindergarteners would familiarize them with Foos'ha, and what effects, if any, this would have on their emerging literacy skills.

Following pretests of all participating children, teachers in 10 kindergarten classes assigned to the experimental treatment read stories in

Foos'ha to their students on each school day from the beginning of January to the middle of June. Teachers in the two control classes used the same time periods for a language development program designed by the Ministry of Education. Children were posttested during the last two weeks of June.

The 12 kindergarten classes, with altogether 307 students, were all from a medium sized Arab town in Israel. A lower income level than other Arab towns, an especially high crime rate, and the even distribution of children from varying home backgrounds in all schools, were among the reasons for the choice of this town. At the beginning of the study the children's ages ranged from 5 years 1 month to 6 years, with a mean of 5 years 4 months.

Criteria for story selection were: content that attracts children, narrative style, and stories in grammatically correct yet not archaic language. A search of available Arabic children's books revealed, besides translated fairy tales known to many kindergarteners, a preponderance of heavily moralistic descriptive material written in abstract and extremely difficult language. Consequently, 10 of the 12 stories that served as texts were prepared especially for this study. Five were translations of modern Hebrew stories that according to school supervisors' testimony were very popular with this age group.

In order to include as many words as possible that are common to both Amiyah and Foos'ha, the stories were first translated to Amiyah and subsequently to Foos'ha, following grammatical and syntactic rules of Foos'ha. Five additional stories were folktales adapted from their archaic original forms. Two Arab linguists checked and corrected both the translated and adapted stories, and they were all transcribed by a graphic artist and mimeographed for each of the participating schools.

The control kindergartens were given a booklet called "Let's describe...let's tell about..." developed by the Early Childhood Language Development Program of the Curriculum Division of the Israeli Ministry of Education.

Separate meetings with teachers of the designated experimental and control classes, introducing teachers to the respective aims and methods of each treatment, preceded the five month long intervention. Teachers in the experimental classes were asked to read their pupils one of the mimeographed stories during the last part of each school day. Before starting to read, teachers were to explain no more than three key words without which children might not be able to understand the story. While reading they were to use Amiyah terms for Foos'ha expressions they thought the children might find difficult.

Teachers in the control classes used the same time for the Ministry of Education designed language program aimed at improving the kindergarteners' language skills. These teachers also continued oral story telling based on books, as they had in the past.

At the initial meeting with teachers of experimental classes, they unanimously and spontaneously objected to taking part in the study, giving as reasons that they believed the five year olds were too young to be exposed to Foos'ha, that the children would be unable to understand the stories, and consequently would neither enjoy them nor be attentive during reading sessions. A further argument was that the mimeographed stories lacked illustrations. Basically, the teachers seemed to anticipate disciplinary problems and to feel threatened by the fundamental change in accepted practices. But they were persuaded to consent to a month-long trial period. Teachers in the control classes welcomed the opportunity to participate in a ministry-sponsored program and cooperated throughout the study.

At the promised meeting one month later, several teachers in the experimental classes had become enthusiastic about the new approach. During the following months, teachers became increasingly impressed by the changes brought about in their pupils. When they were observed and reassembled two years after the study, it turned out that without exception they had retained their copies of mimeographed stories and were continuing to read them to their current students. They had become convinced that listening to stories in Foos'ha had a myriad of beneficial effects on kindergarteners.

Analysis showed that kindergarteners in the experimental classes outperformed their counterparts in the control classes on a comprehension test. Picture stories told by children in the experimental classes indicated that they were also better able to infer causal relationships from illustrations and to use causally connected episodes in telling their stories. (Testers spread a number of pictures in correct sequence before the children and asked them "to look carefully at the pictures which tell us a story. Now you tell us the story that these pictures tell from beginning to end"). In addition, their stories showed that they were more familiar with conventional story endings and more inclined to expect stories to have a moral. The children who had been in the control classes tended to describe each picture separately, without combining them into a cohesive narrative. Further, children in the experimental classes had higher scores on two measures of active use of language. In telling the picture stories they used a richer vocabulary and a higher proportion of clauses.

According to observers, a further development was that teachers became more aware of the quality of language that they themselves were using in class and made noticeable efforts to improve the level of their discourse. In addition, teachers evinced greater sensitivity to the needs of their charges: "There are many words which I formerly thought were easy and now I realize that children do not understand them."

The children's attention span appeared to increase in the course of the study, in addition to their increasing eagerness for different stories. Contents of the stories were reflected in the children's drawings and artwork. The absence of illustration, formerly criticized by the teachers, was now lauded as allowing the children to develop their imaginations. Above all, teachers and observers were impressed by the way the experimental treatment influenced children's language development. Literary usages were cropping up in the children's daily discourse. Aside from actually using words in Foos'ha, the children's speech tended to become more distinct and more grammatical. They expressed themselves better, both in Foos'ha and Amiyah, using words from the stories.

An unforseen development was that once story reading had become formally established, mothers came to schools and asked to buy the books their children were talking about so much at home. Upon learning that this was impossible some mothers took the mimeographed texts home and had them photocopied. A further outcome of children's enthusiasm about stories was that some families started to buy books for their kindergarteners, finding to their surprise that they were easily available in their neighborhoods.

Regular reading to kindergarteners from texts in Foos'ha proved an effective way to familiarize them with literary language. Moreover, effects of listening to story-reading extended beyond children's comprehension skills and carried over also to their active use of language. Thus, an intervention strategy, necessitating neither great teacher expertise nor expensive materials, effectively improved children's general ability to comprehend and actively use a register to which they had not been exposed before.

A second result of the study was that teachers in the experimental classes changed their attitudes with regard to the feasibility of reading to children directly from texts in Foos'ha. In the years following the study they included reading to children in their daily routines right from the beginning of each school year.

Because the children were too young to be tested on reading comprehension, tests in listening comprehension were used instead. When comparing comprehension of oral and written discourse of third and fifth

graders, Hilyard and Olson (1982) found that the superiority of good readers over average and poor ones held regardless of whether they heard a story or read it, but that students who read stories paid closer attention to details. Using a listening, instead of a reading, task can therefore be expected to retain differences in level of performance, though finer distinctions may be obscured.

The literature on diglossia and multilingualism is largely concerned with the social implications of choice of register and of level of proficiency in the oral use of standard or majority language. However, within the context of schooling it is the children's ability to comprehend teachers' discourse and texts in schoolbooks that will ultimately have the most effect on their attainments. Listening tasks, especially when presented by non-familiar testers, are likely to be a good way to predict children's ability to understand speech addressed to them in learning situations. The large advantage of children in the experimental classes on a listening comprehension test in Foos'ha is therefore one of the most important outcomes of the study.

Poor school attainments of students with little proficiency in the language of instruction is a problem shared by school systems in many countries. Within this context the special case of speakers of dialects, who are introduced to literacy in standard literary language, has been beset by much controversy.

Today, it is generally accepted that in order to enhance the potential level of attainments of children growing up in a diglossic situation they must ingest the prestigious standard language. The present study showed that it is possible to start this process already before school entry. Moreover, exposing children extensively to literary language without making overt demands on their own use of oral language led to children's spontaneous use of elements of literary language in everyday situations.

Further study will show whether children will eventually be able to adapt their choice of register to the needs of the situation and to the level of their developing competence. Given time and continued exposure, there is reason to believe that ultimately children's behavior will resemble that of competent adult multilinguals for whom code switching is so natural that it occurs nearly subconsciously.

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Literacy Development and Bilingual Education

Hanna EZER

What is literacy?

In order to become proficient in a second language, a person experiences two stages. First, he becomes proficient in interpersonal communicative skills, meaning he can conduct a conversation or write informally. According to research, this takes one to two years to achieve. Secondly, he becomes able to perform in an academic environment; he can understand what's going on in class or can extract meaning from a text. According to research, this takes both children and adults five to seven years.

Furthermore, two factors are involved in the process of achieving second-language proficiency. One factor is cognition, the mind of the learner. The other factor is context, the setting in which a language is acquired.

According to Canadian researcher Jim Cummins, *context-embedded* situations facilitate second-language acquisition. Take, for example, a child who comes to school without the majority language. If the teacher provides a context, the child will know what has been said. The context implies or hints at the meaning. The teacher can also provide a special corner with objects from daily life where children can play while engaging in discourse. This makes language acquisition easier because the child can extract meaning from the environment.

It is more difficult, of course, in *context-reduced* situations. In a traditional classroom, the teacher lectures and if the student understands the words, he understands; if he doesn't, he doesn't. Let's say the teacher

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Hanna EZER trains language and writing teachers at the Beit Berl Teacher Training College in Israel. She also develops writing programs for bilingual children and first-language learners. She received her Ed.D. in Bilingual Education and Literacy Development from Boston University, and also holds degrees from Tel Aviv University and Hebrew University, Jerusalem.

speaks about the country's history. For new immigrants in the class, the subject is not familiar. The lecture situation itself is very formal, and the language is not easy. The paucity of context clues produces a *cognitively demanding* (versus *cognitively understanding*) environment.

If, then, we speak of literacy, we mean more than the technical ability to read and write. Nowadays, we recognize that the same person needs to approach various kinds of texts differently. Moreover, we speak of *literacies*, in the plural: technological literacy, cultural literacy, and also critical literacy (i.e., the skill of critical thinking), which is very much culturally based (Hirsch, 1987; Gee, 1989).

We should come to the text with more than the semantic knowledge of what it says. In fact, we bring with us to the text:

1) The language.

2) Background information.

3) Culturally-based interpretation.

Now suppose a four year old comes to kindergarten for the first time. For this child to understand what the teacher means when the latter says, "Don't grab something when you want it," of course he/she must first know the language. But in order to fully understand the meaning, the child must also possess prior or background knowledge regarding social expectations and behavior.

This cultural literacy is not so simple to achieve. Even children who share the majority language are not all on the same level when they first enter school. Each has acquired his first cognitive, emotional, social and linguistic skills - that is, his *primary* language - at home. This primary language depends on social class, ethnic group, the education of the parents, and the tongue spoken at home.

School confronts the child, often for the first time, with a society of non-intimates. This new society requires a common language that all can use in order to understand each other and the teacher and thus to become educated. This *secondary* language does not necessarily mean a second language. It can also be a first language whose dialect and associated behavior differ from the way of speaking practiced at home.

I would therefore accept Gee's definition of literacy as control of the secondary uses of a language. Secondary language proficiency means being able to communicate orally and in writing with non-intimates in various situations and according to various social expectations. The child should know that he speaks differently to his mother than to his teacher, that he writes differently when addressing a letter to a friend or preparing an essay for school. It is the teacher's task to provide the kind of educational setting that promotes this sort of literacy.

Of course, those children whose primary (home) language is similar to the secondary (school) language, who come from more educated homes where the majority language is spoken and the social conventions practiced, where they have books and know the meaning of written words, are fortunate. Such children are already familiar with school language and school expectations, although sometimes it creates difficulty when a three or five year old starts using high level words that his classmates don't understand and perhaps laugh at.

Research has shown that what children bring from home influences their school achievements. Shirley Brice-Heath, in *Ways With Words* (1983) , for instance, reporting her research on three different groups in the United States, reaches this conclusion.

Four principles for promoting literacy

How can school promote literacy in young children? It is suggested that the school system adopt the following four principles:

1. *The school should provide settings focused on acquisition, not learning.*

These are not likely to be traditional classroom settings, but rather natural and functional environments.

I wish here to distinguish between acquisition and learning. Traditional teachers share a philosophy that says, "If we don't teach, the pupil won't learn. If I am a teacher, I have to control everything, to go with the student step by step." In this model, the teacher transmits knowledge to a relatively passive learner. The process is organized mentally and involves conscious knowledge gained through explanations and analysis. We learn mathematics. We learn geography.

In contrast, we *acquire* language. A baby, for instance, acquires his first, oral language through the natural setting of the home - from parents, siblings and other people. He absorbs the language subconsciously, in the open, from exposure to models and through a process of trial and error. The setting is meaningful and functional in the sense that the youngster knows he must acquire something in order to perform. School should provide this kind of natural, context-embedded setting.

Usually, bilingual education combines both acquisition and formal learning. Unfortunately, this is sometimes not the case with immigrant children who must acquire a second language. It is also not the case at university level in Israel, for example, where academic subject matter is sometimes taught in English. However, research done in the United States and Canada on adult education concludes that even at this stage of life

people will still acquire a language more easily when they are exposed to it and not only formally taught.

2. *The school should offer a curriculum based on the children's primary knowledge and cultural background.*

The psychologist and psycholinguist Vygotsky (1962) says that when a gap exists between what the child knows and his potential, the educator should identify this gap and teach to the student's current level rather than above it.

In Russia, for instance, classroom behavior is very formal; when a student approaches a teacher, he calls him Sir. This is the child's background or cultural knowledge. Then he comes to school in Israel, where children call the teacher by his first name and the atmosphere is very informal. That breaks the child; he thinks school is anarchy. A teacher insensitive to the child's background will call for the school psychologist. A teacher aware of the child's background will build on it.

Sometimes the opposite happens, of course: the teacher focuses on children coming straight from home with only the primary language and ignores children from more literate backgrounds, who then become bored.

In other words, the teacher should first identify what the students know and then create a classroom and curriculum suited to their different levels. Children can be divided into different classes or different groups within the same class.

3. *The school should expose children to a variety of alternative primary and secondary discourses.*

Each child comes from a different place with different knowledge and abilities. The teacher must make the children aware that each class member possesses a primary language worthy of respect, but that there is also a secondary language out there in the world that must be mastered, and furthermore that certain situations call for certain kinds of linguistic choices and behavior.

4. *There will always be children who enter school with only primary discourse. The school's task is to introduce these children to secondary discourse skill.*

Bilingual education programs

In the United States today, many people are native speakers of languages other than English. Therefore, lots of children speak different languages

at school. For this reason, educators have had to develop a number of bilingual education programs.

Transitional Bilingual Education (TBE) is one such program. Linguistic minority children are taught in their first language and gradually shift to English. The teacher is bilingual, controlling both languages, because she must lead the children from their mother tongue to English.

Advocates of this model claim that children cannot learn in a language they do not understand. First-language instruction is thus necessary to counteract the negative effects of a home/school linguistic mismatch.

The underlying assumption is that the student will in time transfer skills obtained in the first language to the second (majority) language. The transfer occurs when exposure to the majority language and motivation to learn it are sufficiently high.

Psychological research shows that children are able to transfer skills from one language to another. Once a child accepts the idea that reading and writing are important and that linguistic behavior varies depending on the situation, they can transfer these skills to the majority language when they are eight or nine years old.

Another related program is called the *Two Ways Program*. It presents academic subject matter in both English and, for instance, the Spanish language.

The teacher switches from one language to the other in the same class. The underlying idea is that native English speakers will have a chance to learn, for instance, Spanish - and vice versa. The children all sit in the same class and all share the same difficulty in acquiring a second language. This makes the life of the minority-language speakers easier because the majority-language children understand their classmates' experience.

The program is not that popular, however, because the social status of Spanish is low. The American middle class prefer their children to learn French as a second language. This has become a delicate political issue.

A lot of research has been done on the status of language as a psychological factor in motivation. If the status of the language you are learning is low, you don't want to learn it.

Motivation is also cited by the supporters of bilingual education, however. They claim that children who come from minority ethnic groups may know a little of the majority language, but not how to behave according to the dominant culture. Such children's academic skills are

correspondingly weak. When they see the majority-language children both controlling the language and achieving in school, they start to feel ignored and inhibited and their motivation ebbs. Educators who build on these children's background knowledge also build their confidence.

Says David Macedo of the University of Massachussetts in Boston: "A literacy program must be rooted in the cultural capital of subordinate groups and have as its point of departure their own language. Educators must develop pedagogical structures that provide students with... their own reality as a basis of literacy". (1991).

After all, most people want to know how to use a country's majority language because it is important. They know that it is the key to school achievement and to promotion at work later on. They know that it is the key to dealing with the authorities. In other words, motivation exists from the beginning. The educator's task is to activate or trigger it.

A third American program, not bilingual in approach, is Second Language (SL) classes. This program is common in Israel as well as the United States, and popular for those linguistic-minority children who are not part of large ethnic groups (Norwegians and Japanese, for example). In this model, a minority-language child enters a regular, majority-monolingual class, but once a day for an hour goes to a special classroom where a special teacher provides an extra curriculum in the majority language.

Advocates of this program cite the *insufficient exposure assumption*. They say non-native speakers must be massively exposed to the majority language. They consider bilingual education illogical in its implication that less second-language instruction will lead to more second-language achievement.

Of course, intensive exposure to another language, hearing only that language, demands great cognitive effort. A person comes to the point where he can't absorb anymore. In order to ease the tension, research says, let the children speak in their own language on their free time.

Research shows that, paradoxically, those minority-language children whose families shifted to English at home were confronted with more difficulties in school than were children whose families continued to speak the mother tongue. The children lacked confidence because the parents, themselves not in command of standard English, felt unsure. The children projected this psychological situation onto their own school achievement.

Educators advised these parents to shift to their own language at home and thus build the child's confidence. A child should know that his roots and native language are legitimate and that to be literate means to be

able to shift from one situation to another. At home with one's intimates, it's all right to speak the first language. In school, in formal situations, one needs another language and that language is English.

Organizing the classroom to promote second language acquisition

Enright and McCloskey (1985) present a communicative model. Their assumptions, based on the view that language occurs in a social environment and is used for oral and written communication, are as follows:

1) *Children should learn language as a medium of communication rather than as a curriculum subject.* This is where teaching a second language fails sometimes, because if it is taught as subject matter, as drills and exercises, it is not functional. The child can master it cognitively, but it doesn't appeal to him and is not useful to him.
2) *Children should learn language through purposeful interaction with their environment.* For example, if a teacher wants to teach the class post-office vocabulary, she takes them to the post office. They look at the signs and listen to the conversations. If she wants children to learn about wild flowers, but can't take them outside, she brings pictures to class and creates appealing activity corners.
3) *Language as communication will be most useful to the learners if it is meaningful and interesting.* The key word here is interesting. The language should be closely tied to objects in the children's world, taking into consideration the children's background and previous cognitive, social and cultural experience.
4) *Educators should use various, socio-effective as well as cognitive approaches to the second language development task.* This is because children bring a variety of backgrounds and life experiences to the second language encounter.
5) *Children's second language development is a holistic process.* That is, children use all their available linguistic and non-linguistic resources to become successful second language communicators. In this sense, children are being exposed to the language and getting a chance to communicate in the language all the time, not only in the language lesson but also in the geography and history lessons, on field trips, and when the principal comes in to speak with the teacher or class.
6) *Children's second language development is facilitated by a comfortable classroom atmosphere,* one that encourages and celebrates efforts at communicating, focuses on the meaning of utterances rather than on their form, and treats errors as a normal part of the process. If students conduct the class by themselves and the teacher does not

correct their language errors every time, they gain confidence. They are motivated to learn and do so by trial and error.

For instance, children should be given a chance to write freely in a second language. The teacher should tell them it is for communication and will be posted on the walls, published in the school newspaper, or put in a book.

There are strategies for dealing with the language errors that arise. It depends on how and when the teacher approaches the child: not at the beginning and certainly not in a manner that suppresses the child's will to write or read.

One strategy for dealing with errors is for the teacher to say, "This will be published and adults will read it. The content is very nice and the drawings are beautiful, but would you like to do it also in the adult way?" The adult way is to look at the spelling errors or do a little something about the sentence structure. Of course all the children say, "Well, we want it the adult way." This is the time, after the child has already done several drafts, when the teacher sits with him and says, "Let us look at what you have done. Let us see if you have some errors. We will work on some of them."

7) *Teachers should organize their classrooms to facilitate collaboration.* Remember, language develops in a social atmosphere. Collaboration means students learning and interacting with other students as well as with adult instructors.

The teacher can set aside a small area within the classroom, for example, and provide it with a tape recorder. Two children at a time go there and record themselves reading to each other. Usually, one is stronger than the other. They laugh and have fun, but at the same time they are collaborating (Ezer, in press).

Another reading activity involves the children all taking turn. The teacher brings them to the point where they learn to listen to each other and not to laugh at each other's reading. Students whose first language is not English are at first permitted to bring books in their mother tongue and read them aloud. Believe it or not, I have seen a classroom of American children sit open-mouthed listening to a story read in Norwegian.

The teacher can create a similarly relaxed and fun atmosphere for collaborative writing. One such teacher uses the blackboard for posting what the children write. When she herself wants to write, she pulls down

a roller screen and afterwards closes it. In this way, the children absorb the idea that school is not only writing with chalk on the blackboard.

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Bilingualism and Biliteracy

Elite OLSHTAIN

This lecture will focus on questions of bilingualism and biliteracy. Literacy does not involve only written language. The coding and decoding process, for instance, does not go on only with the written language but also in oral exchanges. We should think of literacy in terms of an *oral/literate continuum* (Ong, 1980; Tannen, 1984).

The Oral/Literate Continuum:

Less literate	More literate
Context-bound	Decontextualized
Relative focus on interpersonal involvement	Focus on information and on message
Immediate, situational cohesion	Lexical & grammatical cohesion
Personal experience	Experience with similar texts

The main dichotomy in this continuum is not writing versus speaking. Instead, it opposes communication in our immediate environment and daily life, which is less literate, to communication in a more formal, more distant setting, which is more literate. Both written and oral language can appear on either end of the continuum.

All communication is based heavily on what we know about each other. My daughter and I are very familiar with one another and share a lot of common knowledge; when we talk at home, our interaction is familiar, immediate, and there is personal involvement.

Dr. Elite Olshtain, Professor of Education at the School of Education, Hebrew University; researches language teaching and second-language acquisition; Director of the NCJW (National Council of Jewish Women), Research Institute for Innovation in Education; published books in the field of Course Design and Language Teaching and various academic articles in professional journals.

We have situational cohesion, since our interaction takes place in the immediate environment which we know well, and is about things that we are personally involved in, things that we share in the family. Obviously, this is the kind of interaction that most children are exposed to at home.

Writing in the context-bound situation might be a note left for someone in the family. Such written notes share the basic features with spoken language in that they are highly contextualized. If we tell our kids in a note where they can find lunch and how they should warm it up, it is based on the shared knowledge we have in the family.

School language, as opposed to home language, is usually at the more literate end of the continuum. Does the linguistic exchange in the home prepare the child for school language? Not always. In the decontextualized situation we cannot assume too much shared knowledge. We cannot rely on the "here and now" which is typical of within-the-home types of interaction.

The formal processes become important now. In school we must make much more skilled use of linguistic forms and other conventions which enable us to function in a decontextualized situation. At home with other members of our family or with close friends we don't always have to say everything explicitly. But in the decontextualized situation it is very important to transmit information effectively. We have to make sure that people who don't share a lot of background with us can understand the message. We have to use conventional grammatical and lexical elements successfully. Literacy helps us to carry out these tasks.

We could apply Bernstein's concept of elaborate and restricted codes to this continuum. The elaborate code is on the decontextualized end; the restricted code is on the context-bound end. Summarized simply, Bernstein's claim was that children from lower-class families are limited to a restricted code, and that puts them at a disadvantage. Researchers agree that in middle and upper-class families, thanks to the overall higher socio-economic level, there is a better chance that children will be read to and spoken to at a higher *register*; and that brings them closer to school-type language (elaborate code).

Register means the level of formality in the language. Obviously, in a more literate context we tend to use a higher register. Martin Joos (1961) described five levels or registers of language use: *intimate language*, which is used within the family or with very close friends; *casual language*, used with friends and people you know quite well and meet regularly; *consultative or semi-formal style*, used on a regular basis with people in the wider community; *formal style*, limited to occasions that call for formality; and *frozen style*, used only by certain people in

certain professions, such as diplomats or politicians. A literate person knows which register suits a particular situation.

Every educated person uses at least three registers: the intimate, the casual and the consultative. At home we might be exposed to the intimate and casual only, and not to the consultative, which is needed for school. In fact, school requires consultative and formal registers both in the spoken and written modes. If a child has been exposed to a variety of registers at home, school literacy will be much less threatening. In many cultures, family dinner conversations provide good exposure to both language content and use. If children are allowed to take part in the adult conversation at the dinner table, they may have a chance to become aware of these different styles and uses.

Bilingualism is a part of bi-culturalism. There can't really be bilingualism without two cultures interacting. There are many questions that have to be asked and considered about biliteracy. Can a person become fully bi-literate; that is, acquire full literacy in two different languages? Is there an age limitation of some kind? Do you pay a "price" for being biliterate - do you lose out on some features of language use? What are the factors that contribute to biliteracy? To date, we have partial answers for only some of these questions.

Let us assume that it is possible, under certain conditions, to develop biliteracy. I think that in Israel there is quite a number of people who have managed to do that in English and Hebrew. They may have originally been native speakers of English who emigrated to Israel and acquired Hebrew near-natively; or Hebrew speakers whose profession has given them both the need and the opportunity to master English. They are probably people who can function successfully in either society and are truly bilingual, bicultural and biliterate. This kind of situation probably exists for many academic and professional people in the world today, who are literate in their own language and use English as an additional language for wider communication.

What are the conditions conducive to such bilingualism? It does not happen automatically under all circumstances. Let us go back to the basic question of literacy. How does home language prepare the child for school language?

Literacy at Home and School

HOME	SCHOOL
Storytelling	Decontextualization
Adult-child interaction	Higher register
Older & younger siblings	Variety of text types
Reporting to family	Learning conventions
Story reading	Pre-planning for certain activities
General scaffolding	Focus on linguistic forms

Storytelling to which a child is exposed at home is extremely important for his linguistic and literate development; it prepares the child for the structure and development of narratives. It does not matter whether the family is working class or middle class, and it does not matter who tells the story. In some families, however, due to the number of children, survival difficulties and other problems, children grow up without being told stories or being read to from books. Then, they lack a very important aspect of their development.

Adult-child interaction within the family is another very important type of activity; it is, perhaps, the most important preschool activity that prepares children for school. The adult asks questions and makes the child respond, think, construct his answer, etc. Different cultures will obviously emphasize different traditions and values in such interaction. In Israel, for example, kindergarten from the age of four or five is viewed as part of the formal education a child receives. Kindergarten also prepares the child for school in a gradual and scaffolding manner. In fact, most children go to some private or public nursery from a very young age.

Since Israel is a country of immigration, the kindergarten often plays an important role in the family's acculturation process. In the 1950s, when we had a very large number of immigrants, we used to say that in Israel the mothers learn the mother tongue from the children: the child goes to kindergarten, acquires Hebrew, and then comes home and teaches the parents.

The Russian immigrants, however, don't perceive kindergarten an important educational element; they think of it more as a baby-sitting institution. To them, education begins in school. As a result, they don't take kindergarten too seriously and often don't send their children to kindergarten. Culture, therefore, may place quite different emphases on adult-child interaction. Today, we tend to think that it is extremely important.

There is a story about a Nobel Prize winner in science, an American Jew whose mother had come from the old tradition of European Jews. When he received the prize, somebody asked him: "What do you think was the most important element in your education that helped you reach this high level?" His answer was: "My Jewish mother. When I came back from kindergarten every day [this was a religious kindergarten with a rabbi as teacher], she never asked me, `What did you do in school today?' Instead, she asked me, `Did you ask the rabbi any wise questions today?'" This scientist was probably a naturally gifted person, but it is interesting how he remembered the daily challenge his mother gave him to "ask the rabbi a wise question." The things we encourage children to do in the preschool period can prepare them cognitively for school literacy.

Another very important type of interaction at home is with *older or younger siblings*. The type of questions that children are expected to answer, how they report on their own experiences, how they are made to elaborate a story they hear or watch on television, etc. - all of these activities prepare them to cope with school literacy. Among other things, these activities will make children learn to use a higher register.

It is important for children to gain experience in *decontextualization*, to be exposed to different registers and text-types: narratives, expository texts, etc. The school situation also requires that children pre-plan and think our their presentations, whether they are oral or written. Literacy requires planning what you are going to say or write. In school, then, children need to learn about linguistic forms which carry decontextualized cohesion and connectedness, and about conventions of text-types.

Linguistic forms have to do with things such as pronouns, the endings of words, inflections, tenses, and other such forms which need to be used correctly in order to identify old and new information in a text or to maintain a thread of thought. *Conventions*, in the way I have used the term, are more culture than language-bound. For instance, in the Western tradition of expository writing, we tend to place the main idea at the beginning and then develop it gradually. In other cultures, the tendency might be to start with the background and only gradually lead to the main point. These are different conventions of presenting information.

Here are some examples of how interactions within the family help the younger children go through a process of decontextualization and *scaffolding*. The examples are taken from Scollon and Scollon (1981). The first one shows how an older sister (OS) teaches the younger sister (YS) to read (p. 60):

OS: giraffe
YS: giraffe
OS: might
YS: might
OS: look
YS: look

The second example (p. 89) focuses on decontextualization through the manipulation of contexts in an interaction between parents and a two year old:

> Rachel's ability to manipulate verbal contexts indicates control over contexts which is essential to the decontextualization of literacy. Once we had this conversation:
> Rachel: I heard the fire when I was outside.
> Mother: You heard the siren!
> Rachel: I heard the fire when I was outside.
> Father: What did the fire sound like?
> Rachel: It sounded like "tire".
> Both as an indication of verbal play and an ability to dodge, this example shows her ability to control talk by controlling contexts.

Here is another example of literacy-focused interaction between mother and son, taken from Catherine Snow (1991):

NATHANIEL (31 months)	MOTHER
	what's that
dat	eight
eight	that's a number
number	
rectangle	a rectangle
	that's a shape
(picks up a 2)	what's that

In this interaction, where the mother is actually playing with the child, there is constant scaffolding; and the interaction helps the little boy understand the concepts of shape, number and letter. Obviously, this type

of child will come to school much better prepared than a child who is not exposed to this kind of interaction during the preschool years.

The following example is taken from a school activity in the first grade where the teacher intends to focus on "requests for display". The teacher (T) gives the child (S) a slide viewer and asks him to tell her what he sees; but she, of course, has her own agenda and expectation of what he should say. The following interaction develops:

T: They're Indian ladies, and what else?
S: I can see something.
T: What can you see?
S: And they are going in the sand.
T: Mmm...
S: Oh, they are going in the sand.
T: What's behind the men? Can you see the men in the red coats? What is behind those men? Can you see?
S: (nods)
T: What is it?
S: They are walking.
T: They are walking, yes. But what's walking behind them? Something very big?
S: A horse.
T: It's much bigger than a horse. What is it?

It is obvious that this interaction is quite different from an interaction at home, since the teacher has her own agenda with respect to the activity. She wants the pupil to say "elephant", and she does not allow him to gradually develop the sequence of his own understanding of the picture. The child in this case has not been able to follow the language and instructions the teacher has thrown at him.

Some children need the gradual development which they might not get in school; otherwise they become frustrated and fall behind.

Mala Ramadora (India): It might help if you tell the child what you are looking for.

Donna Chin-Fatt (Jamaica): This sort of method, which one is often forced to use in the classroom, simply does not encourage language development. What happens eventually in that the children call out words rather than developed thoughts.

Debby Mue (Fiji): In Fiji, children learn to repeat words after the teacher without knowing what they are saying.

Elite Olshtain: That reminds me of the way of teaching that was common in the 1950s and 1960s. In many parts of the world they still teach this way. This kind of method was based on the notion of "habit formation" in language. We don't subscribe to this approach any longer. *In second language teaching today we prefer the humanistic, communicative approach which places the learner in the center of the process.* The pupil's first language is something he knows and brings with him to the learning process, so we don't reject it. We simply pick up and use it to the extent that it can help.

Young and less experienced teachers find a closed, prescribed approach to teaching more comfortable and safe. In the last few years we have done a lot of research with novice and expert teachers in order to find out what expert teachers do that is based on their experience and thinking - things that perhaps cannot be taught in teacher training.

We did a study here recently with language teachers, focusing on the type of *feedback* they tend to give their pupils. The study was based on observation in the classroom. We found that expert teachers know how to use feedback to encourage pupils, to connect content to things learned in the past, and to elaborate in order to prepare pupils for topics to be encountered in the future. Novice teachers, on the other hand, have a ready-made lesson plan and are so concerned with keeping to it that they cannot pay full attention to what the pupils say or do. Their feedback, as a result, is often very general and noncommittal. They do not tend to make use of what pupils say or build on it for continued teaching, and pupils are often left with a feeling of not knowing whether they did well or not.

Debby: In many cases, you will find that inexperienced teachers tend to over-plan. They are secure only when they have a very structured plan, and heaven help the poor child who tries to break it down.

Sera Muriu (Kenya): I think there is also a problem with supervisors who come along and expect to see a plan being followed. I think this is a very insecure method of teaching. The more expert teacher will say: "I have reached my goal if the children learn. If we haven't covered a topic today, we will do it tomorrow."

Roy Hauya (Malawi): The experience we have in our country is that language teaching becomes structured, and the possibility of a child's learning in a free social situation is completely lost. The teacher will speak according to the lesson plan, because otherwise things get out of hand. In reality, there must be a relationship between what the child does in class and what he does outside. The balance is incomplete,

because teacher training insists on a structured approach. The moment things get out of hand once or twice, the teacher becomes very frustrated and gives in.

Elite Olshtain: A very important feature of the communicative approach to language teaching is that it allows for variation in the pupils' answers. If we ask a real question and not something that is stated verbatim in a story or in some book, we can expect that different pupils will want to say different things. This is when effective learning goes on.

It seems to me that within all education systems there is an interesting tension among the various authorities that deal with teachers and teacher training: the teacher training colleges, the ministry of education, the policy makers and the school. In general, such tension is a good thing, but there also has to be interaction and cooperation among these authorities. Usually, teacher training programs - mostly the pre-service programs - are up to date theoretically and preach new and innovative approaches; but when novice teachers get to their schools, they often find that the field is not yet ready for drastic changes, and they get quite discouraged. It is important for policy makers to recognize the constant changes in philosophy that occur, and to allow for growth and development at all levels.

Let us now focus specifically on *bilingualism*. First of all, let us agree that any person who has access to two languages is bilingual. We used to say that true bilingualism requires full command of two different languages; we have now simplified our definition and made it very general.

There are different types of bilingualism. *Elitist bilingualism* is derived from school bilingualism. A second language is taught in a certain school and used as the means of instruction. This creates a group of people, the graduates of that school, who know two languages. American and English schools in South America, for example, use English as a means of instruction, and the pupils acquire both English and Spanish or Portuguese. They use Spanish on a daily basis, but within their group they can use English.

Folk bilingualism results from a situation in which a person speaks different languages at home and in the community. Sometimes more than two languages are involved, since there may be different local languages and a different official language.

Street bilingualism is a situation in which people need to develop a certain proficiency in one or more languages in order to interact with

various people on a daily basis. For instance, English is needed by vendors in street markets where English-speaking tourists visit.

In terms of policy-making, we often distinguish between *additive bilingualism* and *subtractive bilingualism*. This distinction is most relevant in immigrant situations where the school system allows for the teaching of the first language at school. In the additive approach, the second language is added to the first and both can be further developed in a parallel manner. In the subtractive approach, eventually the first language is dropped completely and the second takes over.

"Additive" and "subtractive" bilingualism are terms developed in North America in order to cope with policy-making for immigrants there. We may say that in the additive approach, we assume bilingualism will continue through life.

There is at least one other way to think of bilingualism: from the perspective of acquisition. Here we distinguish between *simultaneous bilingualism* and *subsequent bilingualism*. Simultaneous acquisition is the case where, for example, the father speaks one language and the mother speaks another language to the child consistently. The child then grows up bilingual. If the two languages also happen to be used by two different groups in the child's environment, there is a very good chance that he/she will have full control of both languages.

Subsequent bilingualism is the more common situation: a child learns the mother tongue at home, and one or two other languages are added when he/she starts going out of the immediate family environment.

By the way, anything said about bilingualism can also be said about trilingualism. It is simply a matter of whether we are considering a bilingual or multilingual environment.

Nepal has an interesting and complex situation. Nepalese is the official national language. Children come to school speaking some local language, and there are many of those. The child's home language obviously has a rich oral tradition and cultural background, but it may not have developed a written form. In this case it is important to maintain the first language with its oral tradition; but eventually, this will be difficult to do since the written and official language will become much more powerful and necessary for the individual. Here we may have a situation of subtractive bilingualism, unless the community finds a good way to maintain activities in the first, local language.

Alganesh Gebrehiwet (Eritrea): In my country we face serious problems. All the books that were written in the first language, the mother tongue, were burned, and Amharic was made the only legal language.

Now, under a new government, the curriculum is in Tigrean; but we have many immigrants who speak Amharic, Arabic or another language.

Mala: How much expertise can a child really gain in two or three languages?

Elite Olshtain: I think it depends mostly on the functions the languages have in his society. Any normal person can function successfully in two, three or even more languages, if these are useful and consistently used in the active environment.

As regards language policy in a multilingual context, it is important to give full support and effective curriculum development for the *language of wider communication (LWC)*. An LWC is a language which enables speakers of different languages to communicate with one another. English today is an international LWC. In certain countries there are local LWCs, like English and Hindi in India or Yoruba in Nigeria. A language is a good candidate for LWC if it is one in which scientific articles are not only written, but also translated into. In other words, an LWC provides, among other things, access to the latest development in modern science.

Rosaline Menga (Cameroon): I think that in Cameroon we have a very instructive experience of LWCs. Cameroon is officially a bilingual country; we have two official languages, English and French, which we are supposed to learn in addition to our own native language or dialect. (There are over 300 dialects in Cameroon.)

At the time bilingualism was introduced in Cameroon, people did not really have a need for it, because we were in a federal system; the English-speaking side of the country did not mix with the French-speaking part. Each part had its own government, radio, everything. In school we were taught the other second language, but we did not worry about it. But later on, when we became a united republic, the two parts mixed. Today, people need both languages. You may work in an office and speak English, but your boss is French-speaking. You receive letters in English even though you are Francophone, or in French even though you are Anglophone.

So right now there are many people who are struggling to learn the other second language. In some offices they speak neither French nor English, but a type of Franglais. Government policy makes it compulsory to teach both English and French in schools.

Indira Yakthumba (Nepal): In Nepal we have so many languages and dialects that most parents want their children to start learning English, which is needed for professional and economic advancement, from the beginning grades. Is it all right to teach English from the beginning?

Elite Olshtain: If we are talking about a foreign language which is learned in school and not used in the immediate environment, then children are not very good at learning such a language very early on. It is preferable to strengthen the first or more immediate language initially, and only a little later introduce the foreign language. But again, the policy decision has to be taken within the particular context. What language are these youngsters going to use most of the time? What are they going to hear on television, what newspapers are they going to read, etc. We must make sure that they are literate in the language that is dominant in their environment.

We tend to think that young children have a very easy time acquiring a second language. This is not entirely true. Following are some examples of how immigrant children acquire English as a second language. Homer is a speaker of Assyrian and approximately five years old:

Mark: Quit making it so tall!
Homer: What is this sulta! (angry)
Mark: Don't make it so tall!
Homer: What is this sulta? I ask what is sulta. He says something. I say nothing.

Here is a good example of a child who is lucky to have a close friend who helps him most of the time; but even he can get frustrated and not understand. Children have a way, however, of discarding what they cannot handle.

For older children, second language acquisition is also rather difficult. They, too, go through a very difficult period. As an example, let us take a ninth-grade Lao child who immigrated to the United States at the age of 10. Here is what he remembers about his first year in his new country:

> It was too hard for me. I didn't know anything. I didn't know the ABCs or the arithmetic and I felt stupid. I should have been in first or second grade, not in the fifth. I told my parents I want to change, but the teacher said no because it depends on your age. I cried because I didn't understand.

So we see that acquiring a second language is not an easy matter. The learner needs a lot of support and help along the way. We should try to allow for that within the acquisition process. Cummins (1991), who has done a lot of work on immigrant societies, claims that one of the things we must do is empower minority students so that they feel a sense of efficacy and control over both the language they use in the classroom and the language they use outside of school. In other words, if they continue to use their first language at home, we must allow for that language to be respected, and perhaps even taught, at school. Also, there has been a strong claim in the past few years that knowing your own language well is a good predictor for learning a second or foreign language.

Mala: So you are saying that the first language should be developed first, to a degree of competence, and only then should the second begin to be taught?

Elite Olshtain: Yes. You build on knowledge of the first language in the second language situation. If I were asked when to begin teaching a foreign language, even an LWC, I would say: spend the first few years strengthening the first language, develop literacy in that language, and make use of lots of decontextualized interaction, before you move into the second or foreign language. Then, once you start the second language, give it an intensive course of study. Thus, in the case of Nepal, I would say that it is important to establish Nepalese first and only then go on to English.

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Promoting Flexibility in Young Children's Mind within the Family - a Cross Cultural View

Pnina S. KLEIN

The current presentation describes a model for understanding specific criteria within adult-child interactions effecting flexibility or plasticity of mind in young children. Through the suggested approach one can identify a series of factors which are necessary and sufficient to turn any adult-child interaction into a learning experience for that child. The proposed approach is particularly suitable for cross-cultural adaptation since the criteria on which it is based are independent of specific content, context or culture. An examination of the cause and effect relations between parental behaviors reflecting the above criteria and measures of developmental outcome are presented based on results of two longitudinal follow-up studies and one intervention study with high risk low SES children.

Despite the complexity of the subject matter, it has become clear that most basic factors affecting cognitive development are either amplified or circumvented by the kind and amount of human interaction to which a child is exposed. It is thus surprising that until recently little has been known about the potent process within the interactive experiences between the child and his or her caregiver that determines differential cognitive development.

Carew (1980) demonstrated that infants' experiences involving interaction with another person, especially experiences in which the adult reacted to the child or prestructured experiences for him or her, affected development earlier, more highly and more consistently than intellectual

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Dr. Pnina Klein, Professor of Education and Head of the Early Childhood Education Department, Bar Ilan University; Director of the Baker Center for The Enhancement of Learning Potential in Children with Developmental Problems, Bar Ilan University. Her MISC (More Intelligent & Sensitive Child) Program, recommended by the World Health Organization, (WHO), is implemented in nine countries.

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experiences which were created by the child him or herself and which he or she experienced by him or herself. More specifically, mothers of those defined as competent infants were found to spend more time teaching the infants, facilitating their activities, stimulating them intellectually.

What does teaching an infant mean? Are all adult-child interactions equally contributive to differential cognitive development? White et al. (1979) suggested that later intellectual development of young children can be predicted based on variations of performance on social tasks, for example, trying to please adults, gain their attention and procure their services, as well as gaining information from concentrated looking at the environment, listening to live language directed at the child and attempts to master motor skills. Their findings suggest, although indirectly, that environments that teach children to gain adults' attention, to please adults, to learn from looking, from listening, are environments which promote cognitive development. Yet, the basic question of how to identify the potent factors or processes within an interaction between a child and his or her caretaker that promote the development of the above identified variables, remains largely unanswered.

Numerous studies have demonstrated significant relations between various criteria of development and maternal behavior such as attentiveness, warmth, responsiveness and non-restrictiveness. Research on the effects of paternal behavior on child development has been primarily of a correlational nature, thus not allowing for conclusions of cause and effect between components of parents' behavior and developmental measures of the child. Furthermore, because of lack of a theoretical conceptual framework, some of the ad hoc conclusions based upon this type of study led to over-generalized and even misleading conclusions.

Most available data, although indirectly supporting the role of an adult mediator between infant or child and his or her environment, have as yet failed to postulate a universal rather than content-specific theoretical conceptualization of the characteristics of mediation, interaction or teaching which precede differential cognitive development. An attempt at such a conceptualization is found in the theoretical framework of the *Mediated Learning Experience*.

What is a Mediated Learning Experience (MLE)?

The theory of the MLE is part of the theoretical framework of Cognitive Modifiability (Feuerstein, 1979) based on the conceptualization of intelligence as the capacity of an organism to use previous experiences for future learning. What processes must take place in a child's life, what

type of learning is required to assure his learning how to learn, to assure flexibility or plasticity of mind? There are two basic ways in which a person is modified through interaction with his or her environment. The first is modification that occurs as a result of direct exposure to stimuli, i. e, direct contact with or exposure to stimuli perceived or experienced through the sensory channels.

The second process of learning, Mediated Learning Experience, is the process of learning which occurs when another person serves as the mediator between child or learner and the stimuli.

Mediation is an active process. The mediator acts upon the stimulus before it enters the organism, he affects the processing as well as the response of a person. The mediator selects, accentuates, frames and locates the stimulus in time and space. The mediation enables the person to benefit from experience; it actually prepares him or her to learn, to become modified.

Based on the theory of MLE, the following criteria were identified as universal characteristics of an interaction between an adult and a child that turn that interaction into a mediated learning experience for the child. The identification of the following criteria holds far reaching implications for the construction and evaluation of environments that promote cognitive development of young children and in the identification of risk factors within such environments.

Basic criteria of an MLE type interaction

1. Intentionality and reciprocity

Intentionality of the mediator is communicated to the child at a very early stage and creates a joint intention, an openness, a readiness to perceive changes and respond on the part of both parent and child. Both the child and the stimuli are affected and modified, made compatible to each other by the process of mediation. The intention to mediate between the environment and the child has several basic components, such as: regulating the state of arousal of a child, calling his attention to stimuli and affecting his response.

MLE is clearly not accidental; it is a conscious intentional act. It is a dynamic process in which the mediator (most frequently the mother) uses a variety of actions to reach the objective of her mediation. She moves her head towards the infant or away from the infant's face until he or she focuses on her eyes or moves an object until the infant focuses on it. She may vary her tone of voice or rhythm of speech until the infant responds in line with her intentions.

Intentionality affects the manner in which a stimulus is presented and how it is attended to by the child. The mother, through modification of her behavior, selects that part of the environment on which she wishes to focus the child's attention and she chooses and regulates the modes of his or her response.

Intentionality affects the basic processes of arousal. The mother may calm the baby before starting to mediate. She will not engage in MLE if the infant is too sleepy. She does it, for example, through introducing body movement or vocalization in accordance with the child's momentary rhytmic behavior and gradually reducing or increasing the pace in the direction intended. Daniel Stern (1977) gives a detailed account of the "atoms" of such interactions. He speaks of the differences in adults' behavior towards infants as compared to their behavior towards others. Components such as exaggeration on facial expressions, variation in rate of speech and vocal tone may be considered as parts of the MLE, as tools of intentionality, although these various components may not necessarily be consciously directed.

The component expressions of intentionality are not necessarily consciously controlled. There are intentions that stem from the fact that mothers belong to or are part of a cultural, social or ethnic group.
What mothers think about their infants, their theories of child rearing, their image of what a child should grow up to be shape their behavior towards the infants and are included and expressed in their intentionality, affecting both the manner in which stimuli are presented and in which they are attended to by the infants.

In one of our studies we have found that mothers' behavior towards their premature infant boys differed significantly from their behavior towards premature girls, while still in the intensive care unit in the hospital. Mothers explained this difference by expressing their belief that girls are weaker and therefore need more visiting (Klein, 1982).

The intention to mediate for the child in a way that will make the stimuli compatible to him or her creates experiences of Mediated Sharing. The need to share experiences with someone else is mediated for the child through interaction with an adult. A child needs experiences of sharing objects, thoughts, points of view, experiences of empathy, in order to expand his or her need system to include the need to share with another person; for example: the parents' repeated focusing of the child's attention, "look, look here is ..." can later be reflected in the child's need to share his own perceptions and experiences with others. One of the basic factors enhancing a breakaway from egocentric perception, processing and communicating is related to the need to affect the other

person, to make him understand, to create experiences in which a child has to explain to someone, show him or her something or ask for something. In order to perform this sharing in a manner that will produce the expected or desired results, egocentric thinking or communicating will not suffice. Sharing is mediated through modelling, scheduling of experiences in which sharing must occur, identification and reinforcement of sharing experiences or of their components in the child's behavior. Mediated sharing serves as the basis for the need to mediate to others and thus affects both a child's cognitive performance as well as his or her social-emotional behavior.

It should be added that children need mediated learning experiences in order to enhance their capacity and need to share with others and interact with them. Without this basic need toddlers would probably not be able to benefit from being together.

2. Transcendence

This criterion relates to the fact that through an MLE type of interaction the goal of the interaction is transcended from the immediate experience, from its immediate precedents and consequences, to others remote in time and space. A mediated experience is not restricted to the satisfaction of immediate needs. It is by transcending beyond the immediate that structural changes occur in the child, structural changes in the sense of anticipation, search for, need for information beyond the immediate. White (1979) in his comparison of competent and less competent infants indicates that the competent children ask for adults' assistance; they know how to ask for assistance and information. But, how does the child know that he can expect more information, that every experience can be viewed as part of other experiences that may expand it? How does a child know that there is more to an experience than what meets his or her eye or other senses? If one asks a child to carry out a chore, such as bringing an object, the command is sufficient to bring about the desired behavior, but not a mediated learning experience. In essence, the mere fact that the child has carried out the chore indicates that he or she has achieved the immediate goal of the command. However, it has not served as a mediated learning experience until placed by a mediator in relation to a more distant cause, effect, or any other expansion beyond the immediate. The conceptualization of transcendence is thus different from reinforcement; it is also different from explaining an act or merely labelling it verbally.

Saying "Thank you" to the child or smiling at him or her would reinforce his or her act and perhaps his or her tendency to do what we

ask, but telling him or her, for example, what the tool is needed for and what may happen if the tool is not used properly, is transcendence beyond the immediate and constitutes an MLE.

3. Mediation of meaning

The mediator endows stimuli with meaning; meaning of objects, people or relations. The objects which surround us have no meaning to the child unless they bear meaning to the mediator. Meaning in this sense is an affective value-oriented connotation which can be transmitted to the child through the MLE and cannot be obtained through direct exposure to stimuli. As strange as it may sound to some, one has to learn how to pause and wonder.

A child has to learn to expect relations between what is perceived or experienced and affectual connotations and undertones which derive from cultural values or other parental experiences. Through mediation the child learns that things and events have a significance beyond what he or she has directly experienced.

Through direct exposure the child perceives the world, but seeing it without the mediation of its value or the affect it arouses in the adult might not bring about the effect of wonder or attachment and thus will not enable the child to form this type of relation with future experiences that would present other meaningful objects or relations. I would like to stress that mediation of meaning includes mediation of the meaning of affect. The child may experience affect, he or she may feel content, angry, fearful, but if not mediated, it may remain an isolated experience, unrelated to its precedents and consequences or to other similar experiences of the child himself or herself or of others.

4. Mediation of feelings of competence

Through mediation of feeling of competence the child acquires a sense of mastery, a feeling that he or she is capable and successful, which contributes, no doubt, to a willingness to explore and to apply oneself to new and challenging endeavours. If we want to encourage curiosity, active exploration, we must encourage MLE of the feelings of competence.

The existing theories of child or personality development relate to the accumulation of success experiences, to the end-product, to the sum. The MLE focuses not only on the direct exposure to the success or failure, but to its interpretation by a human agent as to the place of these experiences in relation to other actions of the child, to other parts of the

same activity, to possible events that could have led to the outcome and to possible consequences.

Merely saying to a child, "This is very good," is reinforcing his or her feeling or competence, but it is limited and its effects may be an increase of similar types of activities.

The mediation in this case, as in other MLE, is helping the child, not just by reinforcing his or her efforts, but by focusing on the processes that led to success and on the mental process that preceded it. This form of mediation enables the child to use his or her experiences to construct a realistic picture of his or her success and of specific components of behavior that lead to it. The fact that a child experiences success is in itself not sufficient to produce feelings of success. In addition, a young child may not realize that he or she has succeeded in performing part of what he or she attempted to achieve; he or she needs an adult to "scale" his or her success relative to his or her abilities and not, as often seen by the child, relative to the seemingly perfect performance of another adult. In areas of performance in which we have had less-mediated learning experiences, we are less capable of learning from direct exposure to our successes, and we are more vulnerable to criticism and more unsure of ourselves.

Mediated regulation of behavior

The parent (or other adult) brings to the child's awareness the possibility of "thinking" before doing, of planning steps of behavior towards attaining a goal. Repeated experiences in which mediated regulation of behavior occurs create in the child a need for such regulation in his or her future experiences. The adult, by modelling or by scheduling objects or events in time and space, introduces a pattern (plan) of activities for the child, thus regulating the pace and reducing the child's impulsiveness in perception, elaboration and expression. Regulation of behavior entails matching the characteristics of the task to be performed with the characteristics of one's own level of functioning both in terms of cognitive skills and level of efficiency.

This match will result in the adaptation of the pace of the work needed to reach an adequate balance between the rapidity and the required precision in performing a task.

What are the domains affected by MLE?

Will a child who has been exposed to more MLE, for example, speak earlier or have a wider, more impressive vocabulary? Will he or she have better motor skills, be more proficient in carrying out memory tasks, or

be able to demonstrate socially more mature behavior? MLE, in line with the theoretical conceptualization of Structural Cognitive Modifiability, as opposed to theories of direct exposure, aims at achieving flexibility of the individual, plasticity of his mind, the kind of plasticity that will enable a child to change as a result of exposure to future environmental stimulation or to new encounters with novel experiences. It prepares the person to seek experiences of new learning. It not only teaches him or her; it instills new needs, i.e., the need to go beyond the satisfaction of the body's physical needs, the need to have one's experiences interpreted, related to past and future sequences, embedded in a meaningful frame of reference relevant to the person.

Predictability and stability of the MLE criteria

In a recent four year follow-up study in the United Stated of low SES children and their high risk mothers (Klein, Wieder, & Greenspan), the mothers' free play sessions with their infants were videotaped when the infants reached 4, 8, 12, 24, and 36 months. These tapes were analyzed using the described Criteria for Observation of MLE. The predictive value of the observed variables was examined in relation to the children's Bayley Mental Development Scale (MDI) scores at 4, 8, 12, and 24 months and to the McCarthy Scales of Children's Abilities at 36, 42, and 48 months. One of the most interesting findings of this study relates to the fact that 10-minute observation of mother-child interactions in infancy and up to two years of age, using criteria of observation based on MLE, predicted cognitive performance of the same children at four years of age. It should be noted that the 12 month observation was most predictive of long-term performance. Significant and high stability over time was reported in the above mentioned study as well as in another longitudinal study of middle class Israeli infants and their mothers, conducted by the author. In the latter study 40 infants were observed at home for approximately 2 1/2 to 3 hours when the infants were 6, 12, and 24 months old.

Observations at each age included a feeding, bathing and play interaction with the child. Significant cross-age and cross-situation stability were found for each of the MLE criteria observed using the method for home observation described in this chapter. Based on the findings of the latter study it was concluded that the amount and type of MLE provided by mothers is fairly stable across various situations of child care.

However, when the infants were about two years old, mothers were found to provide significantly more MLE during play sessions with the

child compared with interactions in other caregiving situations, i.e., feeding and bathing. It appears that around that time parents begin to differentiate between their role as caregivers and their role as "educators". The latter is perceived as more directly "boxed" into play sessions with the child and having very little to do with other situations of everyday living with the child. This approach curtails the child's chances of getting MLE on many other occasions when he or she is most interested in events occurring around or to him or her and when he or she is most susceptible to cognitive modifiability.

Modifiability of mediation

The findings regarding the predictive power of the criteria of MLE observed in infancy and early childhood as well as their stability over time should not be interpreted as indicators of permanence and unmodifiability of these criteria. It should be understood that if no attempt is made to affect parent-child interaction with regard to these criteria, they may remain quite stable and predictable across time.

The assumption behind our educational approach is that every parent can become a good mediator to his or her child. The time and amount of effort required to achieve this goal may vary depending on variables related to the parent (i.e., level of education, age, personality, cultural values and needs, living conditions and SES), to the child (variables related to pregnancy, delivery, parity, nutrition, general health, temperament and so on), and to the type and intensity of the intervention (individual versus group sessions, time of onset and length of intervention).

An attempt to examine modifiability of the MLE criteria was carried out in a small primarily low SES community in the North of Israel. Forty families within this community received a special program called MIC (More Intelligent Children). Twenty other families served as control group.

The objective of the MIC program was to raise parental awareness of the five basic MLE criteria described in this chapter. The basic underlying assumption of the program was that once parents become aware of what it is within what they do with their child that affects cognitive development, they will tend to increase and improve the mediation they provide.

Mediation to the parents was provided weekly at their homes by trained local paraprofessionals who observed parental behaviors, reinforced and modelled expressions of MLE.

Assessment of pre-intervention and post-intervention conditions in the homes as well as an assessment of the children was carried out, following one and two years of intervention. Significant differences in parental mediation and in children's cognitive performance were found between the pre- and the post-intervention conditions, in favor of the experimental group.

It is interesting to note that with regard to two criteria selected as indicators of change, 1. parental verbal ability to recite the basic MLE criteria and 2. observed increase in the frequency of these criteria in parent-child interactions, it was found that parental behavior changed before there was a parallel change in their verbal capacity to recite the criteria.

The length of time it took a family to modify significantly the MLE provided to their children depended on a number of variables, some of which are commonly reported in the literature in relation to change of attitude. However, in this case, parental motivation to improve their child's cognitive development was clearly present in all homes and was unrelated to parental level of education, income, or ethnic background. It must be noted that there was significant variability between parents with regard to their own belief in modifiability of their child and in their self-perception as agents of this desired change. Assessing these parental attitudes and beliefs may serve as an indicator of the need to spend more time mediating to the parents about their power in shaping the child's mind and about their child's potential to change.

In sum, in infancy and early childhood one should not be content with evaluating a child's cognitive performance without assessing the type of preparation for learning he or she experiences, i.e., the amount and type of MLE provided to him or her.

Bloom (1964) suggests that the effects of early environment may be particularly salient and lasting, provided no major changes occur in a child's environment. Contrary to that notion, Kagan, Kearsley, & Zelazo (1978) suggest that the effects of early experiences are exaggerated, and that later environmental variables explain more of the variability in cognitive performance and that high correlations between early environment and later cognitive performance reflects more of the stability in the child's environment, rather than the isolated effects of the early environment. Based on the theory of MLE, an additional explanation to this question may be offered. According to this theoretical approach, MLE at any age affects later cognitive performance. Changes occuring in the environment are potentially effective if these changes include MLE experiences. A child who has not experienced MLE is not likely to

benefit from future direct exposure-type learning, and thus may remain unchanged, despite major changes in his or her environment. The theory postulates that cognitive modification can occur at any age, provided appropriate mediation is made available to the person.

Infancy and early childhood are periods in which the person is particularly sensitive and ready for cognitive modifiability. Thus, a focus on the potential for modifiability during this age, taking the MLE criteria into consideration, is of special interest.

Focusing on the criteria of MLE is not merely a move farther up on the abstraction ladder of criteria for successful mother-child interactions. It is a qualitatively different approach to the well-founded question: What elements in mother-child interactions affect further cognitive development? The difference between the available theoretical as well as empirical frameworks on this subject and the theory of MLE relate primarily to the objective of these interactions and consequently to means of their evaluation.

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Annex

List of Participants

Course on Emergent Literacy in Early Childhood Education
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Country	Name	Position/Employer
Cameroon	Elizabeth GWEI	Administrator, Ministry of Education
"	Njenji Rosaline MENGA	Divisional Inspector, Ministry of Education
Eritrea	Alganesh Gebrehiwet NEGUSSE	Head of ECE Panel, Ministry of Education
Ethiopia	Dillo TAITU	Preschool Supervisor, Municipality of Addis Ababa
Fiji	Ruci Delai KIDIDROMO	Education Officer, Ministry of Education
"	Catherine Anne MUE	Teacher, International School
Grenada	Ivy HARRIS	Childhood Education Organizer, Ministry of Education
India	Mahalakshmi RAMADORAI	Lecturer & Supervisor, Bombay Teachers Training College
Jamaica	Donna CHIN FATT	Senior Lecturer, St. Joseph's Teachers College
Kenya	Serah W. MURIU	Preprimary Supervisor, Municipal Council of Nakuru
Lesotho	Maseobi Melida MOELETSI	Head Teacher & Supervisor, English Immersion School Project

Lesotho	Mamoshoeshoe MOLAPO	Head Teacher & Supervisor, Ntoetse Early Childhood Development Center
"	Francisca Mamok SHAI	Programme Officer, Ministry of Education
Malawi	Roy J.R. HAUYA	Lecturer in Education, Malawi Institute of Education
Myanmar	Daw KHIN MAR WAI	Assistant Lecturer, Teachers Training College, Mawlamyine
Nepal	Sanu AMATYA	Founder/Director, Tri-Shakti School
"	Devina PRADHANANG	Training/Specialist, Primary Education Project, Ministry of Education
"	Indira YAKTHUMBA	Principal, Gyanedaya Bal Batika Boarding School
Philippines	Carol CRUZ	Education Program Specialist, Bureau of Elementary Educ., Dept. of Education, Culture and Sports
"	Wilfreda FAMADOR	Principal & Regional Trainer, Dept. of Education, Culture and Sports, Cagayan de Oro City
"	Elnora PARAGAS	Principal, Dept. of Education, Culture and Sports, Lingayen
Poland	Marzanna TYBURSKA	Supervisor, Wojewwodski Osrodek

Saint Lucia	Georgina STRAUGHN	Supervisor, Ministry of Education
South Africa	Happy Prince GUMEDE	Inspector, Psychological Services, Kwazulu Dept. of Education and Culture
"	Ruby Miriam SIBISI	Inspector of Schools, Kwazulu Dept. of Education and Culture
St.Kitts Nevis	Jacqueline BROOKES	Coordinator of Preschools, Ministry of Education
Swaziland	Mbali Theresa NZALO	Rural Educ. Center Coordinator, Ministry of Education
Thailand	Somporn THITAMADEE	Supervisor of Kindergartens, Bureau of the Royal Household
"	Wiriyaporn UDOMRATI	Principal, Suntisuk Wittaya School
Zambia	Mary Goretti PHIRI	Lecturer, Kitwe Teachers College

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